DOCUMENT RESUME

ED 166 561 CE 020 102

TITLE Annual Adult Education Research Conference. Proceedings (20th, Ann Arbor, Michigan, April 4-6, 1979).

PUB DATE Apr 79

NOTE 414p.; Some pages in this document will not reproduce well due to small or faint print

EDRS PRICE MF-$0.83 HC-$22.09 Plus Postage.

DESCRIPTORS *Adult Education; *Adult Education Programs; *Adult Educators; *Adult Learning; Adult Students; Career Change; Community Colleges; Community Programs; Counselor Training; Educational Attitudes; Educational Needs; Educational Trends; Extension Education; Health Education; Higher Education; Paraprofessional Personnel; Participant Involvement; Program Development; Program Effectiveness; *Research; Self Actualization; Social Environment; Transfer of Training

IDENTIFIERS Adult Performance Level; Germany; Grounded Theory; Intuition; Participation Training; Piaget (Jean); Qualitative Research; Zaire

ABSTRACT

Papers from numerous research areas in the adult education field are presented. The proceedings contain thirty-five papers, five symposia, one alternate symposium, and eighteen alternate papers. Among the papers included are "A Comparison of Approaches to Measuring Outcomes in Adult Basic Education," "A Critical Analysis of Hill's 'Cognitive Style Inventory'," "A Mathematical Programming Model to Recognize Conflict in Adult Education Program Selection," "A Normative Field Study of Community-Based Senior Group Programs as Settings for Learning Activities for Older Adults," "A Social Systems Approach to the Analysis of Community Development Pilot Projects," "A Study of the Impact of Public Opinion upon Educational Decision-Makers," "A Test of Piagetian Cognitive Development Theory Applied to Small Groups," "An Attempt at Theory Building from Literature and Field Data," "Automatic Interaction Detector," "Crisis in the Steel Industry: Effects of Mass Unemployment on Educational and Vocational Goals and Activities," "Critical Consciousness and Social Structure in Rural Zaire," "Determinants of Intention to Participate in Continuing Professional Education: An Empirical Investigation," "Development and Validation of a Normative Process Model for Determining Priority of Need in Community Adult Education," "Effectiveness of Voluntary Citizen Advocacy Activities," "Field Methods for an Inductive Approach," and "Immigrant Adult Education: Tasks of Adaptation." (CSS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED166561

TWENTIETH ANNUAL

ADULT EDUCATION RESEARCH CONFERENCE

PROCEEDINGS

BEST COPY AVAILABLE

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Floyd Pennington

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

CE 020 102

Marriott Inn
Ann Arbor, Michigan
April 4-6, 1979

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

TABLE OF CONTENTS

PAPERS PRESENTED

A Comparison of Approaches to Measuring Outcomes in Adult Basic Education 1

A Critical Analysis of Hill's "Cognitive Style Inventory" 8

A Mathematical Programming Model to Recognize Conflict in Adult Education Program Selection 14

A Normative Field Study of Community-Based Senior Group Programs as Settings for Learning Activities for Older Adults 19

A Social Systems Approach to the Analysis of Community Development Pilot Projects 26

A Study of the Impact of Public Opinion Upon Educational Decision-Makers 33

A Test of Piagetian Cognitive Development Theory Applied to Small Groups 40

An Attempt at Theory Building from Literature and Field Data 41

Automatic Interaction Detector 48

Crisis in the Steel Industry: Effects of Mass Unemployment on Educational and Vocational Goals and Activities 54

Critical Consciousness and Social Structure in Rural Zaire 61

Determinants of Intention to Participate in Continuing Professional Education: An Empirical Investigation 68

Development and Validation of a Normative Process Model for Determining Priority of Need in Community Adult Education 75

Effectivenss of Voluntary Citizen Advocacy Activities 82

Field Methods for an Inductive Approach 89

Immigrant Adult Education: Tasks of Adaptation 94

Information Resource Utilization Patterns and the Learning Efforts of Low Income Urban Adults 100

Instructor Behavior and Psychological Climate in Adult Learning 106

Intuitive Learning Among Adults 116

ISIS - Interpersonal Skills for Involvement with Seniors: A Staff Training Kit - The Importance of Interactive Evaluation 123

Management Practices Leading to Program Productivity and Sustained Local Funding, New York State Cooperative Extension, 1976 130

Mature Students in Higher and Further Education in an Industrial City 136

Methodological Problems in Interpreting Cross-Sectional Data in Adult Developmental Research 143

Occupational Change and Transferable Skills: Implications for Program Design and Research 150

One Way to put Numbers on the Educational Needs of People in an Organization. Is There a Better Way? 158

Principles of Adult Learning Scale 164

Relationship of Programmer's Planning Orientations to Program Development 171

Studying the Adult Learner in a Formal Educational Context 178

The Aims of the American Adult Education Movement in the Nineteen Twenties: A Historical Analysis 184

The Building of a Civically Literate Society: Implications for Policy and Practice Related to the Education of Adults 191

The Conference Coordinator: A Study of Role Expectations and Performance 198

The Future of Adult Education: An Inductively Derived Scenario 203

The Relationship of Agent Self-Actualization and Group Traits to Growth in Community Problm Solving Groups 212

The Relative Effects of a Patient-Centered Education Program on a Person's Adaptability to Living with a Chronic Disease 219

Toward an Analysis and Synthesis of the Directional Literature of the Field of Adult Education 225

SYMPOSIA PRESENTED

Evaluating the Quality of Faculty Outreach Efforts: The Development of an Evaluative Approach to be Used in Salary, Promotion, and Tenure Decisions 232

Lifelong Learning During Adulthood - Agenda for Research 235

Participatory Research: Collective Analysis for Action 238

Qualitative Research Methods and Approaches 248

Research on Continuing Professional Education: Methods Used in and Findings From Three Research Projects 260

ALTERNATE SYMPOSIUM

Public Involvement: An Ideal to be Questioned? 270

ALTERNATE PAPERS

A General Systems Approach to the Extension Function to the University 278

A Group Growth Framework for Community Development 286

Adult Performance on Piagetian Tasks: Implications for Education 292

American Style Continuing Professional Education Methods for Changing German Teachers' Perceptions and Attitudes: A Pilot Study of Their Meaningfulness and Attractiveness 299

An Analysis of Indices of Effectiveness of State Department of Education Administrative Organization for Adult Education Services 306

Assignment Completion as a Predictor of Attrition and Achievement in Correspondence Courses 313

Can We Improve Research on Competencies Required of Adult Instructors? 319

Community College Faculty Attitudes Toward Community Services 326

Cooperative Extension, The Carter Administration, and the 95th Congress: An Empirical Model of the Politics of Appropriation 333

Life Crises and Career Change in Adult Educators 340

Life-Span Developmental Psychology: New Perspectives for Adult Education Researchers 347

Opinions of Health Care Professionals Concerning Patient Education for the Inpatient Hospital Population, with Implications for Program Planning and Staff Development 355

Participation Training: Changing Self-Perception 362

Piagetian Cognitive Levels of Adult Basic Education Students 369

Selection of Older Adults for Paraprofessional Counselor Training 376

The Continuing Education of College Graduates: The Relationship of Age and Sex to the Pursuit of Education 383

The Influence of a Series of Workshops Related to Citizen Participation in Civic Affairs on Anomia, Life Satisfaction and Locus of Control Among the Aged Population in the Piedmont Region of North Carolina 390

The Responses of Older Women to a Creative Problem Solving Program 397

A COMPARISON OF APPROACHES TO MEASURING OUTCOMES IN ADULT BASIC EDUCATION[1]

Ronald Cervero, National College of Education

Background and Purpose

In the structure of American education the completion of high school is an important indicator of attainment. As such, the high school credential has always served notice that an individual possesses certain knowledge and skills necessary to employment and further education. The level of educational attainment has risen consistently for many years so that by 1970 the median years of school completed had risen above twelve. Concomitant with this increase in the level of education has been the increasing use of the high school credential as the minimum requirement for employment and training leading to employment. There are, however, nearly 65 million people in this country who do not have a high school diploma and who are not in school (NACAE:21).

In the form of adult education, opportunities do exist for adults to earn a high school credential. In 1976 alone 3.37 million adults were enrolled in federally funded adult basic education programs (NACAE:21). Many of these educational programs are shaped by the General Educational Development (GED) test which adults must pass to demonstrate their skills and knowledge. The GED test was given to 506,744 adults in 1976 while 349,048 people passed and received high school equivalency certificates (GED Testing Service:10). In 1977 approximately 7 per cent of all high school diplomas were issued on the basis of GED test scores (NCES:50).

The GED testing program was developed in the 1940s as a method by which to measure whether returning servicemen had obtained the skills and knowledge consistent with completion of a typical high school curriculum. The GED test is designed to measure the major outcomes generally associated with four years of high school education. The certificate which is issued on the basis of GED test performance is accepted by employers and institutions of higher education as a valid indication of adults' possession of knowledge and skills which might otherwise have been acquired in a typical high school program.

In recent years, however, there has been federal concern about the inadequacy of existing methods of teaching and testing adult basic education students. As a result of this concern the United States Office of Education (USOE) funded the Adult Performance Level (APL) study to specify the competencies necessary for success in adult life and to develop devices to measure those competencies (Northcutt:1). The APL study, it is claimed, provides a new approach to the definition and measurement of outcomes in adult basic education (ABE). The APL approach offers a new definition of outcomes, proponents assert, because the competencies were identified through studies of adult life rather than high school subject matter (Delker:1). These necessary competencies of adult life are translated into objectives which, it is argued, should form the bases of all adult basic education curricula in this country (Delker:4). There have also been developed APL tests which are designed to measure the necessary competencies of adult life. It is asserted that the measurements made by the APL tests and the GED test differ because the former measure life coping skills and the latter measures academic skills.

---

[1] Requests for reprints should be addressed to the author at 2840 Sheridan Road, Evanston, Illinois 60201.

In many states the objectives which the APL test is designed to measure are shaping the curricula of ABE programs while in several states the APL test itself is being used as one among a series of requirements upon which to award high school diplomas. It is not unlikely that many states will choose to use the APL test alone as a basis upon which to award high school diplomas to adults.

Given the large numbers of people who earn high school credentials in ABE and the increasing use of the APL approach in ABE, it is important to know the comparability of APL and GED approaches to measuring outcomes in ABE.

The implementation of the APL approach in ABE raises a question which provides the impetus for this study. The question, stated simply, is how does the approach to defining and measuring outcomes in ABE exemplified by the APL test differ from the most widely used approach exemplified by the GED test. The significance of this question is that high school diplomas are being issued to adults based on these two different instructional and testing procedures.

Although it is widely believed that these two approaches to basic education are only minimally related (Bell, Delker:1, Lyle:47) there is no evidence to support that assertion. Therefore, decisions about which type of instructional and testing procedure to offer adults are being made on assumptions which have not been empirically tested. The primary characteristic which distinguishes the APL and GED approaches, it is asserted, is that the APL approach involves skills and knowledge which are immediately applicable to adults' lives, while the GED approach involves skills and knowledge which are primarily useful in academic situations such as college.

Methodology

The APL Survey was administered to 296 GED candidates in Cook County, Illinois who were taking the new form of the GED tests. There were 322 potential subjects in the nine testing sessions selected for use in this study. While these testing sessions were not randomly selected, they were chosen to be representative of the GED testing sessions in Cook County. The candidates in these testing sessions were not significantly different from the population from which they were drawn in terms of age, sex, educational level, and performance on the GED test. The APL Survey was taken by 296 GED candidates, a 91.9 completion rate. These data were collected during September, October, and November 1977 when the new forms of the GED were being field tested in Cook County.

The GED test has 290 multiple choice items and five sub-tests: The Writing Skills Test, The Social Studies Test, The Science Test, The Reading Skills Test, and The Mathematics Test. The APL Survey is a 40 item multiple choice test developed by The American College Testing Program. Each item represents the application of one of five skills (reading, writing, computation, problem solving, identification of facts and terms) to one of five content areas (consumer economics, community resources, health, government and law, occupational knowledge).

An unweighted least squares procedure was used to factor analyze the APL Survey items and the GED sub-test scores.

Results and Discussion

The correlation between the total APL Survey score and the total GED test score for the Cook County sample is .8065 (N = 269, $p < .00001$). Thus, the probability that the correlation between scores on the two tests is zero in the

TABLE 1

FACTOR LOADINGS OF THE APL SURVEY ITEMS FOR THE UNROTATED TWO FACTOR SOLUTION[a]

	Factor 1			Factor 2	
Item	Skill	Loading	Item	Skill	Loading
24	W	-.26	21	PS	.31
7	R	-.30	36	F	.28
37	W	-.30	6	F	.26
36	F	-.33	4	C	.26
39	C	-.34	23	C	.23
15	R	-.38	22	C	.22
8	R	-.39	8	R	.18
1	W	-.42	14	C	.18
6	F	-.42	20	PS	.17
31	F	-.44	3	PS	.15
28	R	-.45	25	PS	.15
12	C	-.46	27	R	.13
40	R	-.46	16	F	.12
32	C	-.47	31	F	.11
11	PS	-.49	32	C	.10
29	W	-.49	29	W	.10
26	C	-.49	35	C	.09
30	W	-.49	12	C	.09
5	W	-.50	39	C	.06
21	PS	-.50	2	PS	.06
38	W	-.50	34	F	.04
33	PS	-.50	38	W	.03
25	PS	-.51	26	C	.01
22	C	-.51	28	R	.00
35	C	-.52	7	R	-.03
16	F	-.52	11	PS	-.04
13	W	-.55	40	R	-.07
3	PS	-.55	10	R	-.08
4	C	-.56	33	PS	-.09
14	C	-.57	17	R	-.12
20	PS	-.57	37	W	-.15
23	C	-.60	24	W	-.18
17	R	-.61	5	W	-.18
2	PS	-.62	19	F	-.19
19	F	-.65	13	W	-.20
34	F	-.65	9	PS	-.25
10	R	-.66	1	W	-.31
27	R	-.66	18	R	-.42
9	PS	-.69	15	R	-.47
18	R	-.70	30	W	-.50

[a] The abbreviations for the skills are Computation (C), Identification of Facts and Terms (F), Problem Solving (PS), Reading (R), and Writing (W).

population which this sample represents is infinitesmal, less than one out of 100,000. The fact that 65 percent of the variance in the scores on one test can be explained by variance on the other test indicates that not only a statistically significant but a truly substantial relationship exists between the measurements made by the APL Survey and the GED test.

These results should not be surprising given what was found in this study about the two tests. Factor analyses of the APL Survey items and the GED subtest scores show that both tests measure one cognitive dimension. It is reasonable to label this one dimension reading ability.

The evidence for the conclusion that the GED test primarily measures reading is that in a factor analysis of the GED sub-tests the scores on the five sub-tests are highly positively correlated to the first factor with correlations ranging from .72 for the mathematics sub-test to .90 for the social studies sub-test. Although one of the reasons for developing the new forms of the GED test was to reduce the importance of reading ability as a factor affecting performance, it appears that the GED test developers have not fully achieved that goal.

It appears reasonable to argue for the existence of only one general trait which significantly influences performance on the APL Survey. In the first factor of the two factor solution in Table 1, it is seen that all items are correlated in the same direction within a relatively narrow range (-.26 to -.70).

In the second factor of the two factor solution in Table 1 no grouping of items appears which corresponds to the skills or content areas being assessed by the APL Survey. This evidence suggests that after the general factor affecting performance is extracted, there is not a second factor for which any psychologically distinct effect can be described.

It is reasonable to hypothesize that the one dimension underlying performance on all of the items is reading. All items are composed of a stem and alternative choices which must be read by the respondent. To correctly respond to each item, one must have a certain level of reading comprehension ability and knowledge of vocabulary. The more reading ability one has, then, the more likely he is to make a correct response on all APL Survey items.

Conclusions

The use of the APL approach in ABE raises a question which provides the impetus for this study. The question, stated simply, is how does the approach to defining and measuring outcomes in ABE exemplified by the APL test differ from the most widely used approach exemplified by the GED test. The significance of this question stems from the fact that high school completion certificates are being issued to adults based on both testing approaches.

It was concluded that given a correlation of .81 between the APL Survey total score and the total score on the new form of the GED test, the assumption of no relationship between the APL and GED tests is untenable. These results effectively destroy the myth that skills necessary to be functionally competent, as that construct is measured by the APL Survey, are unrelated to the skills which constitute the long term objectives of a high school education, as measured by the GED test.

It was also concluded that this high positive relationship between the two tests should be expected given the findings that both the APL and GED tests are primarily measures of reading ability.

Implications

In terms of the measurement of outcomes in adult basic education, the merits of the APL approach have been argued by its proponents on the basis of two fundamental assumptions. These proponents argue that while the APL approach is concerned with skills and knowledge which adults can use in their daily lives, the GED approach is concerned with skills and knowledge which are useful primarily in academic situations. The assumption is that academic skills and functional skills are mutually exclusive categories. A second assumption is that the GED test is an inappropriate measurement device for adults who have been away from the academic environment for some time because the claim is made that it measures skills and knowledge which are irrelevant to adults' functioning in their daily lives. Because of the assumed mutual exclusiveness of the two approaches, it is argued that a test can be used to measure either but not both categories of skills. Since the APL testing approach assesses skills that are relevant to the concerns of adults, it is claimed, this test should be used in ABE.

The notion that the outcomes measured by the APL approach and the GED approach are different should be dispelled immediately. This study found there is a common underlying dimension measured by the two tests--probably general reading ability. The assumption that different content will make a difference in the measurements made by the two tests is incorrect. The measurement of so-called coping skills and academic skills are essentially the same. The results of this study should also dispel the notion that adults can demonstrate their abilities more truly on a coping skills test than on a test which measures academic skills because these latter skills are both unfamiliar to and irrelevant to adults.

That the APL approach is not new or different does not mean it should not be implemented. To know whether adults possess the skills with which to cope with their daily lives is important. The APL tests succeed to some extent in measuring these necessary coping skills because reading ability is useful in this regard. However, the APL approach errs when it claims to measure the universe of behaviors necessary to function effectively.

While APL instruction was not studied here, the results may have some implications for instruction if it is assumed that the APL Survey represents the desired outcomes of APL instruction. Even stronger implications may be drawn if the APL Survey serves as the end of instruction measure of achievement.

Adult basic educators have the tendency to consider coping skills as specific tasks, such as filling out this year's income tax form, rather than as general skills such as reading, which would be useful not only for filling out this year's income tax form, but also for understanding the instructions necessary to fill out different kinds of forms. This example illustrates a crucial distinction with regard to APL instruction. If the skills taught in the APL approach are general such as reading, writing, and computation, then this approach would probably produce the same outcomes as those resulting from the GED approach. If, however, instruction revolves around the specific tasks necessary to cope in today's world without regard to the generalizability of these skills and knowledge, then the outcomes of the two approaches very well may be different. If the skills learned could not be generalized beyond the context in which they were acquired, then it is likely that this type of APL instruction would produce outcomes which differed substantially from those produced by GED curricula.

If the latter APL instructional approach were used, an injustice would be done to those adults who are taught how to cope in today's world, and who, in tomorrow's world, are left without the necessary coping skills. The irony of this situation would be that those adults who became proficient in the academic skills--reading, writing, computation--would be better able to cope with the rapidly changing circumstances of their daily lives than those adults who are only taught how to perform adequately in practical situations today.

While specific levels of performance on the APL Survey have not been used as the single criterion upon which to award the high school credential as is the GED test it is not unlikely that a longer version of the Survey, the Content Area Measures, will be used in that capacity. Two contrary implications seem reasonable concerning the utilization of either the Survey or the Content Area Measures as the single criterion with which to certify adults' basic skills. First, it may be concluded that since the APL and GED tests do not measure traits which differ substantially, it would be an inefficient use of limited resources to implement this new test in the field of adult basic education. However, since a good deal of money and effort has already been expended to develop the APL testing approach a decision not to use that approach in ABE is unlikely.

On the other hand it might be argued that since the APL and GED tests measure much the same thing and since the APL tests use items which may be more relevant to the lives of adults, the APL tests could be offered as an alternative to the GED test for those who prefer its content to that used on the GED test. Furthermore, it may be argued that curricula designed to instruct adults for the APL tests would be more appealing than GED test instruction due to their stress on the useful applications of the basic skills. There is no evidence, however, that adults would be more motivated to enroll in and complete an APL instructional program than to enroll in and complete a GED instructional program.

Much of the literature on the APL approach to instruction suggests that this is a new type of instruction more appropriate for adults due to the stress on skills and knowledge which adults need to use in their daily lives. Conversations with ABE teachers, however, suggest that skills taught in GED preparation classes are often taught with materials with which adults are familiar. For example, teachers may use an income tax form as the context in which to teach both reading and computational skills for the GED test. Using materials familiar to adults has always made good practice in ABE classrooms. Perhaps the major advance of the APL approach is that well articulated curricula have been developed using materials familiar to adults.

If teachers in APL curricula assume that the APL Survey represents the desired outcomes of their instruction, a major emphasis of that instruction should be the development of reading skills. The evidence in this study suggests that reading may be the primary skill being measured by the APL Survey. Instruction in the other four skill and five content areas should be given secondary emphasis.

There are many curricula being developed in basic education programs based on the APL approach. In many of these curricula the APL Survey is used as a diagnostic instrument to measure adults' competencies in the five content areas and five skill areas. Based on students' scores on the APL Survey obtained in the diagnostic process, differential instruction is given in the five skill and content areas. However, APL curriculum developers should use the APL Survey as a diagnostic tool with caution given the finding of this study that the Survey measures one thing--probably reading ability. Therefore, scores on the sub-tests of the Survey probably provide little, if any, direct information about students' abilities in the five content areas and remaining four skill areas.

Diplomas are being issued on the basis of the APL instruction and testing approach. It is reasonable to question whether the diplomas issued on the basis of the APL approach have the same meaning as GED equivalency certificates with regard to the skills and knowledge possessed by those who held these completion credentials. Based on the high correlation found in this study between APL and GED test scores, it is reasonable to expect that if the APL Survey were used as a measure of achievement then the diplomas issued at the completion of an APL curriculum may have an equivalent meaning to certificates issued on the basis of GED test scores. Of course, passing scores would have to be developed for the APL Survey such that the GED test and the APL Survey have an equivalent level of difficulty.

Relatively little is known about the comparability of the two instructional approaches with regard to style of presentation and substance of outcomes. As discussed earlier, the outcomes of the two instructional approaches may be different. If this is the case the providers of basic education will need to make a value decision about which type of instructional program to offer to students. That is, if the outcomes produced by the APL and GED instructional approaches differ significantly then educators must decide which outcomes are better or whether the two types of outcomes differentially serve various groups of students. If, however, the APL and GED approaches to instruction are not significantly different as one study has found, (Rankin:81) then the proponents of the APL approach may wish to suggest other reasons why that approach should be offered to ABE students as an alternative to the GED testing program.

References

Bell, Terrell H., U.S. Commissioner of Education. Press Release, October 29, 1975.

Delker, Paul, Director of the Division of Adult Education Programs, United States Office of Education. "Adult Education Program in Support of the National Right to Read Effort." Memorandum to Chief State School Officer, August 19, 1970.

GED Testing Service of the American Council on Education. Annual Statistical Report, 1976. Washington: ACE, 1977.

Lyle, Buel. Final Report: The Adult Performance Level Study. Austin: University of Texas at Austin, 1977.

National Advisory Council on Adult Education (NACAE). Adult Education, Futures and Amemdments, Survey of State Support. Washington DC: U.S. Government Printing Office, 1977.

National Center for Education Statistics (NCES). The Condition of Education, 1978. Washington DC: U.S. Government Printing Office, 1978.

Northcutt, Norvell, et al. Adult Functional Competency: A Summary. Austin: University of Texas at Austin, 1975.

Rankin, K. Duane. Project Career Success. Section 309, PL 91-230 proposal for July 1, 1976 - June 30, 1977. Venice, Illinois: Venice-Lincoln Technical Center, 1976.

A Critical Analysis of Hill's *Cognitive Style Inventory*

DENNIS E. SHERIFF
Department of LEPS
Northern Illinois University
DeKalb, Illinois 60115

OBJECTIVES

The task of individualizing instruction based upon student differences in cognitive style has been difficult because realistic instrumentation, designed to identify and define the many specific variables that may alter one's learning style, has not yet been perfected. Hill's *Cognitive Style Inventory* is currently being utilized to assess the Educational Cognitive Style of community college students at Mountain View College, Dallas, Texas, and Oakland Community College, Bloomfield Hills, Michigan. The instrment has been administered to approximately 41,000 students at these two community colleges. Basco stated that "information obtained from the maps is used to prescribe the method of instruction (through) which the student prefers to seek meaning" (1974, p. 32). Studies by Basco (1974), Fragale (1969), Hand (1972), McAdam (1971), Ort (1971), Schroeder (1970), Shuert (1970), Sigren (1973), Thompson (1975), Warner (1970), and Wasser (1969) have also reported using the *Cognitive Style Inventory* to assess the Educational Cognitive Style of students at various post-secondary grade levels. Even though the instrument has had widespread use for describing student attributes, little, if any, research has been conducted to investigate the factor structure of the instrument.

While it was beyond the scope of this study to scrutinize the conceptual framework of the Educational Sciences, the factor structure of the instrument used to assess Educational Cognitive Style was, in fact, questioned. The results of this or any instrument can be interpreted and applied more accurately when those factors present within the area of measurement have been identified (Best, 1970, pp. 190-192).

THEORETICAL FRAMEWORK

A desideratum of behavioral science research is to have "pure" measures of quantifiable phenomena, placing emphasis upon student performance as the dependent variable. That the preceding concept is in opposition with correlational statistics is supported by the purpose of factor analysis. Through factor analysis, one can study the structural characteristics of measuring instruments and/or self-inventories; therefore, the instrument itself becomes the dependent variable.

Proponents of the *Cognitive Style Inventory* purport that the instrument measures 27 learner attributes. Theoretically, if the instrument is valid and reliable, 27 factors should emerge from a factor analytic study of the instrument. Factor analysis was employed to determine whether or not the *Cognitive Style Inventory* does, in fact, measure 27 learner attributes. This correlational technique was used to extract the communality between and among items. Simply stated, if the *Cognitive Style Inventory* is valid and reliable, it will measure 27 discrete attributes. Thus, the primary purpose of this study was to identify and delineate those factors present within the area of measurement of the *Cognitive Style Inventory*.

• METHODOLOGY

Hill's *Cognitive Style Inventory* was described as a self-inventory that assessed 27 attributes with eight, three-point scales per attribute, making a total of 216 items per inventory. The students in the sample responded usually, sometimes, or rarely to each of the 216 items.

Of the nine correlational techniques identified by Borg and Gall (1971, pp. 325-333), the Pearson product-moment technique was selected for use in this study since the data derived from the *Cognitive Style Inventory's* three-point scales were considered to be continuous. Of the five methods of factor analysis identified by Kim (1975, p. 478), the alpha method was selected since the attributes.assessed by the *Cognitive Style Inventory* were considered to be a sample of attributes taken from the universe of all possible cognitive attributes. Of the three orthogonal rotational techniques identified by Kim (1975, pp. 484-485), the varimax rotational technique was selected since the purpose of the study was to simplify the columns, as opposed to the rows, of the factor matrix.

• DATA SOURCE

The total population for this study was 48,773 students who were enrolled at Mountain View College, Dallas, Texas, during the academic years of 1973-74, 1974-75, and 1975-76. The sample used in this study was composed of 4,437 individual community college students. Although there was a large range in age, from 16 or under to 60 or over, the mode was 19 years of age. The largest number of students were admitted to the College based upon high school graduation. Having been previously enrolled and without an ACT score, most students were in good standing academically and came from within the district. Most students were male Caucasians in their first year of study, and attended classes during the day, on a part-time basis.

• CONCLUSIONS

To be considered reputable, most researchers agree that the sample for factor analysis should consist of at least 10 students per item (Nunnally, 1967, p. 257). The sample for this study consisted of slightly more than 20 students per item, over twice the number rendered sufficient by today's standards. With this in mind, the following conclusion was offered based upon the results of the study.

Theoretically, if the *Cognitive Style Inventory* were factorially "pure", it would measure 27 discrete attributes resulting in 27 factors. Factor 1 contained 15 of the 27 attributes and accounted for 59.20 percent of the common variance. The succeeding four factors shared the remaining 40.80 percent of the common variance. Within this framework, several attributes loaded significantly on more than one factor. Due to the failure of the instrument to measure discrete attributes, the descriptive and diagnostic features of the instrument are questionable. Until other empirical data are obtained that contradict the results of this study, it can be concluded that the *Cognitive Style Inventory* does not lend empirical evidence to support the theoretical structure of the instrument as proposed by Hill.

• DISCUSSION

As noted earlier, this factor analytic study supported one conclusion. While the conceptual framework of the Educational Sciences has potential practical application for the classroom teacher, the data clearly suggested inherent problems with the instrument designed to assess Educational Cognitive Style. However, as with any empirical result, factor analyses need to be confirmed by successive investigations. It should be noted that this study did not suffer from a lack of students per item, thus reducing the inherent problem of "chance" associated with factor analyses undertaken with fewer than 10 students per item. Nonetheless, inferences drawn by the following discussion should be interpreted with a certain measure of caution.

In the present form, Hill's *Cognitive Style Inventory* incorporates three-point rating scales to assess 27 attributes thought to make up an individual's Educational Cognitive Style. It can be categorized as a self-inventory that requires the student to provide "sentiment" responses to items that allegedly assess information about personal preferences, interests, and attitudes. Unlike a "judgment" inventory that has correct and incorrect responses, a "sentiment" inventory has no veridical comparison, no external standard of accuracy (Nunnally, 1967, pp. 38, 475). Each attribute is assessed with eight, three-point rating scales. The eight multipoint scores are weighted before they are summed to provide a total score for each attribute.

In speculating why the inventory was not highly successful, one might question the overall approach. Basic to the effectiveness of any self-inventory is the reliability of the instrument. With only eight multipoint scales per attribute, it would be difficult to achieve acceptable levels of internal consistency. If estimates of reliability were based upon the average correlation among 100 or more multipoint scales per attribute, then the internal consistency would be increased markedly. By computing a coefficient alpha, the upper limit of reliability could be established within the domain-sampling model (Nunnally, 1967, pp. 254-255), and of the 100 or more multipoint scales per attribute, only those items with ascending monotonic trace lines would be retained. Thus, these multipoint scales would provide a linear model of measurement for each of the 27 attributes. By increasing the number of responses from a three to seven-point response scale, rather than weighting the responses as proposed by Hill, the variability among items within each linear model would be increased. Consequently, the higher item-total correlations would result in a more reliable measure of Educational Cognitive Style.

If, in fact, 27 specific attributes or traits do exist, why not design 27 "highly focused" quantitative measuring instruments with acceptable predictive, content, and construct validity? When accomplished, the result would be 27 reliable inventories, each containing an ample number of homogeneous items derived from the domain-sampling model discussed by Nunnally (1967, pp. 254-255). Of course, the results of this analysis may produce ancillary information indicating that several of the attributes cannot be measured with self-inventory items or, for that matter, any other measure known today.

• EDUCATIONAL IMPORTANCE OF THE STUDY

Self-inventories are beset with basic communications problems involving syntactics (interrelations of signs), semantics (meanings attributed to signs), and pragmatics (human reactions to signs). Hence, to some degree, the factor structure of any instrument is the reciprocal of item ambiguity. In other words, as ambiguities within individual items increase, the number of "pure" factors will decrease, and vice versa. This basic problem stems from an inability to provide quantitative operational definitions of the attributes to be measured. Until this is accomplished, the *Cognitive Style Inventory* will remain an omnibus instrument, composed of complex and multivariate statistical aspects of what might be termed "general ability."

- SELECTED REFERENCES

Basco, C. Y. "An exploratory study employing the educational science of cognitive style for students with impaired decoding skills." Unpublished doctoral dissertation, Wayne State University, 1974.

Best, J. W. *Research in education* (2nd ed.). New Jersey: Prentice-Hall, 1970.

Borg, W. R., and Gall, M. D. *Educational Research an introduction* (2nd ed.). New York: David McKay, 1971.

Fragale, M. J. "A pilot study of cognitive style of selected faculty members and students in a community college setting." Unpublished doctoral dissertation, Wayne State University, 1969.

Hand, J. D. "Matching programmed instruction packages and an instructional setting to students, in terms of cognitive style: An exploratory study." Unpublished doctoral dissertation, Michigan State University, 1972.

Kim, J. Factor Analysis. In N. H. Nie, C. H. Hull, J. H. Junkins, K. Steinbrenner, and D. H. Bent, *SPSS Statistical package for the social sciences* (2nd ed.). New York: McGraw-Hill, 1975, pp. 468-514.

McAdam, G. F. "Personalizing instruction through the educational science of cognitive style and teaching style." Unpublished doctoral dissertation, Wayne State University, 1971.

Nunnally, J. C. *Psychometric theory*. New York: McGraw-Hill, 1967.

Ort, B. S. "An examination of relationship between the measurable cognitive characteristics of French I teacher and the students' success in that course." Unpublished doctoral dissertation, Michigan State University, 1971.

Schroeder, A. V. "A study of the relationship between student and teacher cognitive styles and student derived teacher evaluations." Unpublished doctoral dissertation, Wayne State University, 1970.

Shuert, K. L. "A study to determine whether a selected type of cognitive style predisposes one to do well in mathematics." Unpublished doctoral dissertation, Wayne State University, 1970.

Sigren, V. G. "An exploratory study employing the educational science of group leadership within an orientation program." Unpublished doctoral dissertation, Michigan State University, 1973.

Thompson, P. V., Jr., "The development of instructional strategies based upon the cognitive styles of Polk community college and Florida Southern college students." Unpublished doctoral dissertation, Nova University, 1975.

Warner, J. L. "An analysis of the cognitive styles of community college freshmen enrolled in a life science course." Unpublished doctoral dissertation, Wayne State University, 1970.

Wasser, L. "An investigation into cognitive style as a facet of teachers' systems of student appraisal." Unpublished doctoral dissertation, University of Michigan, 1969.

A MATHEMATICAL PROGRAMMING MODEL TO RECOGNIZE CONFLICT IN ADULT EDUCATION PROGRAM SELECTION

by
LARRY GORDON PARKER
SAN JACINTO COLLEGE

PURPOSE OF STUDY

The Need and Purpose of the Study

Adult education programs tend to become static. For good human reasons, programs tend to become frozen into a pattern of repetition from year to year (11:37). Testing program selection was emphasized in Knowles' advice for evaluation and testing for needed change. He said:

> It is urgent, therefore, especially in an era of accelerating social change, that an institution's general purposes as regard to adult education be continuously tested against changing needs as an integral part of the on-going program development (8:122).

This study attempted to approach the problem of conflict in program selection between the adult education director, adult learners, teachers, advisory committees, and other administrators. By testing ideas and priorities for program selection on a model, the adult educator could have realized his conflict with his community. Upon the realization of this conflict, he could have applied management techniques to bring about changes.

The purpose of this study was to develop a procedure by which adult education directors might compare their program selections with those selected by others involved in the adult education process when such selections were optimized and were limited by the same educational environmental constraints. Optimization was accomplished through the formulation of a linear programming model to simulate the choices and the institutional or educational constraints. In summary, the purpose of this study was to develop a model that would provide the director with a realistic view of conflict between his choices of programs and the choices of others involved in the program planning process.

REVIEW OF RELATED LITERATURE AND RESEARCH

Adult Education Program Planning

According to Alan M. Thomas (15:247), the history of Adult Education in North America has been a history of specific programs, linked to students, with students having free choice of the programs and institutions. It has been said that an adult educator worthy of his name will have mastered many of the techniques of good program planning (1:65). Yet many programs fail under very worthy leadership. Program planners are challenged to plan programs that the public will attend. Adult educators face a dilemma. They must accurately identify areas of interest which will attract people to programs, but limit programs to those obtainable in the educational system that provides facilities and staff (1:131-132). This dilemma will continue. Parker

---

Reprints - L.G. Parker, San Jacinto College, 5800 Uvalde, Houston, Texas 77049

addressing this point says:

> Perhaps the major criticism made against adult education programs is that they do not meet the needs of the students. Adult educators often substitute their views on community needs for the real needs of the people. People no longer want educators to plan for them; they want to be involved. The challenge then, for the new adult education specialist, is to help people plan for themselves (13:113).

Educators will continue to need help in the important decisions of program selection. The complex process of planning was divided by Bergevin, Morris and Smith into six steps (2:11-12). Each of the six require decisions by the adult educator. Decision conflicts are realized and settled by discussion (2:14-18).

Conflict and Conflict Resolution

An article on adult leadership development and conflict resolution, made the following suggestions for adult supervisors:

> First, they must recognize that change is fundamental to the educative process and that conflict is often the hand-maiden to change. Second, they must accept conflict as being healthful to the educative environment. And third, adult leaders must recognize that an essential part of their role is to manage conflict confrontation, the result being of optimum benefit to all concerned (5:237).

This article concludes that proper conflict management will yield rewards for both the organization and the individuals involved (5:238).

Blake and Mouton (3) describe five methods of conflict resolution. Burke (4) defines these methods and later Goodsell (5) related the definitions to adult education. Goodsell's definitions are:

> Withdrawn: it is easier to refrain from conflicting action than risk losing or being wrong.
> Smooth: it is important to play down issues that might result in disagreement.
> Compromise: bargaining yields an intermediate position--half is better than none.
> Force: outcomes depend on the relative power held by conflicting parties and are either win or lose.
> Confront: an open exchange and discussion allows both parties to win (5:236-237).

Burke (4) replicated an early study and found results consistent with his previous study and also consistent with data of Lawrence and Lorsch (9) (10) showing confrontation and problem solving as a method of conflict resolution.

New approaches to organizational behavior based on information science concepts according to Kelly require managers to familiarize themselves with the structures and processes of conflict. He says that making conflict work for you will be an increasingly crucial management issue (7:113). Robin summarized future implications of conflict management. He said:

> First, we can expect managers to increasingly accept conflict planning and evaluation as part of their roles. Second, the importance that conflict will play in the future study of organizations will accelerate dramatically. Third, we can expect efforts

> to move significantly beyond our qualitative approach to measure conflict intensity. Conflict behavior should be definable in quantifiable terms, and research to cardinally define conflict will improve our ability to manage it. Quantitative measurements of conflict behavior would provide the administrator with highly desirable fine tuning capabilities (14:114-115).

Mathematical Programming Models

Johnstone (6), reviewing the literature on educational planning models, noted the acceptance of the principle of the need to build both micro and macro models to help in educational planning. A strong agrument for the use of mathematical programming for decision modeling is summarized by McNamara as follows:

> Since mathematical programming allows the planner to view an educational system as a set of input-output or production relationships, which can be controlled in a way that will optimize the use of scarce educational resources, it becomes a valuable technique to generate policy or "decision-oriented" information (12:20).

METHODOLOGY

This study was designed to determine if a procedure could be developed by which adult education directors might compare their program selections with those selected by others involved in the adult education process when such selections were optimized while being limited by the same educational environmental constraints. A linear programming model was developed to meet the above need and through this model a realistic view of conflict between the adult director's choice of programs and the choices of others involved in the program planning process was realized. A model was designed and tested using a community college district. Fifteen objective functions were obtained from eight individuals and three groups of people. A total of twenty-eight people participated directly in the study. Seven others supplied constraint data.

RESULTS

A procedure for recognizing conflict in program selection was developed in this study. The steps of this procedure are discussed in the following paragraphs.

Preparation of data. The first step was a collection of course descriptions and titles. In this study, a course selection sheet was next used. The sheet was used to measure course preferences of people involved in program planning or of representatives of the intended student body. When preferences (objective function data) and limits (constraint data) had been determined, an optimal solution was sought.

Optimal solution of objective functions. Through the use of computer mathematical programming routines, an optimal solution was attempted for each objective function. These optimal solutions represented the number of students assigned to particular courses based on preferences as expressed on a course selection sheet and stated as coefficients in the objective functions.

Preparation of solution for interpretation. Adult directors had the responsibility for the determination of which courses should be offered; therefore, this study examined differences in number of assignments between the adult director and others involved in program planning or participating in the program. Conflict of assignments was said to exist between the adult director and another determining an objective function if the assignment values differed by amounts larger or smaller than a percentage of the adult director's assignment. This percentage value (10% in this study) was set by the adult director. Preparation of data for interpretation required a comparison between the director's assignment for each course and the assignment of all others determining objective functions. When the conflict courses were determined, tables were used to show differences in assignments. Data were combined to show frequency of course conflict assignments for groups of participants as well as for all participants.

Interpretation of results. It was suggested that the adult director examine the conflict frequency table for all participants to determine which courses had conflict assignment for a larger number of participants. When this was determined, frequencies in group conflict assignments and specific number of student differences could be obtained for the appropriate tables. The director was then better informed of possible sources of conflict in program selection, and to some extent of the intensity of the conflict. If resolution of the conflict was necessary, the adult director would be able to identify the sources of conflict and confront the sources with the differences of assignments. Program planning by use of the model allowed for involvement of more people in the process, showed differences in preferences, and maintained the programs within institutional limits (constraints).

IMPLICATIONS

The model was tested using data of a particular college campus with specific input data from that campus. However, the model is a general and flexible one as illustrated by the following factors,

(1) The sources used for determining objective and constraint function information can be changed to use the sources available at a particular educational institution.

(2) The constraint set could be enlarged or expanded to reflect unique situations at a particular educational institution.

(3) Other methods of determining course preference could be used. The model only requires a relative weight for each course.

(4) Program size both in terms of number of students served and number of courses offered has no bearing on the usefulness of the conflict model. If problem size exceeds the computer capabilities, then program area divisions could be used.

(5) Computer costs are minimal in relation to the time and effort necessary to secure the same quantity of information by other means.

(6) As in the case of every model, experimentation is possible. The adult director could make changes in both constraint and objective function data and observe the assignment changes that may result. The model allows the answer of questions such as "What happens if we change . . .?"

REFERENCES

1. Axford, Roger W. *Adult Education: The Open Door*. Scranton, Pennsylvania: International Textbook Company, 1969.
2. Bergevin, Paul; Morris, Dwight; and Smith, Robert M. *Adult Education Procedures*. Greenwich, Connecticut: The Seaburg Press, 1963.
3. Blake, Robert R., and Mouton, Jane Srygley. *The Managerial Grid*. Houston, Texas: Gulf Publishing Company, 1964, pp. 29-35, 66-70, 93-95, 121-126, 162-166.
4. Burke, Ronald J. "Methods of Resolving Interpersonal Conflict," *Personnel Administration*, XXXII. No. 4 (1969), pp. 48-55.
5. Goodsell, David R. "Adult Leadership and Conflict Resolution," *Adult Leadership*, XXII, No. 7 (1974), pp. 236-238.
6. Johnstone, James N. "Mathematical Models Developed for Use in Educational Planning: A Review," *Review of Educational Research*, XLIV, No. 2 (1974), pp. 177-201.
7. Kelly, Joe. "Making Conflict Work for You," *Harvard Business* Review, XLIII, No. 4 (1969), pp. 103-113.
8. Knowles, Malcolm Shepard. *The Modern Practice of Adult Education*. New York: Association Press, 1970.
9. Lawrence, P. R., and Lorsch, J. W. "Differentiation and Integration in Complex Organizations," *Administrative Science Quarterly*, XII (1967), pp. 1-47.
10. Lawrence, P. R., and Lorsch, J. W. *Organization and Environment*. Boston: Division of Research, Harvard Business School, Harvard University, 1967.
11. McMahon, Ernest E. "The Needs of People and the Needs of Their Communities," in David B. Rauch (Ed.) *Priorities in Adult Education*. New York: The Macmillan Company, 1972.
12. McNamara, James F. 'Mathematical Programming Applications in Educational Planning," *Socio-Economics Planning Science, VII*. (1973), pp. 17-35.
13. Parker, Glenn M. "Getting Your Adult Education Program Started," in David B. Rauch (Ed.) *Priorities in Adult Education*. New York: The Macmillan Company, 1972.
14. Robbins, Stephen D. *Managing Organizational Conflict*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1974.
15. Thomas, Alan M. "The Concept of Program in Adult Education," in Gale Jensen; A. A. Liverright; and Wilbur Hallenbeck (Eds.) *Adult Education Outlines of an Emerging Field of University Study*. Washington, D. C.: Adult Education Association, 1964.

A NORMATIVE FIELD STUDY OF COMMUNITY-BASED SENIOR GROUP PROGRAMS AS SETTINGS FOR LEARNING ACTIVITIES FOR OLDER ADULTS [1]

by

Louise Damen, Ph.D. Research Associate, Adult Education, Florida State University, and Instructor, American Language Academy, University of Tampa, Tampa, Florida

Irwin R. Jahns, Ph.D. Associate Professor, Adult Education, Florida State University, Tallahassee, Florida

Introduction

Two themes permeate the current literature on aging. One concerns the need to allow opportunities for older adults to remain independent and to contribute in a meaningful way to society and to their own sense of well-being. The other is concerned with the recognition of the older population as a social problem and with the responsibility of federal, state and local agencies to provide various services to solve these problems. These two conflicting themes are reflected in the philosophic bases for the pronouncements of the delegates to the two White House Conferences on Aging and in the subsequent federal legislation which these conferences spawned. However, it was the acceptance of the elderly as a national problem which provided the major influence in the determination of types of sponsorship, organizational form, and services to be offered in the community-based senior group programs which were established in such profusion after 1972.

The funding provided through the Older Americans Act and other federal legislation spurred the development of an evolved form of the social welfare agency as the vehicle for the delivery of social services to older adults. Its form and thrust emphasized a social welfare orientation for these programs, the recognition of aging as a social problem, and the belief that these problems could be solved through programs with public funding under public auspices. This public support replaced or discouraged the development of privately supported programs in many areas. The evolved form appeared to represent a new type of setting for senior group programs.

The overall purpose of the study herein described was to gather descriptive data about community-based senior group programs as settings for the delivery of services and activities to older adults. Specifically, it was concerned with developing a system for classifying these programs and their settings and with deriving relevant implications for the design and implementation of learning activities.

Methodology

Using a grounded theory approach (Glaser & Strauss, 1967), this study was carried out in three phases. Phase One was devoted to clarification of the problem and identification of key concepts and issues of concern in the areas of education for older adults and the social context of aging (Moody, 1976). Phase Two was concerned with the collection of benchmark data about programs and their settings which in turn served as the bases for the development of typologies of programs and settings. In Phase Three a discussion of the implications of the findings of the study and a series of hypotheses suggesting possible relationships between given program types, types of settings and learning activities taking place within programs and settings were presented.

---

[1] Reprints may be obtained from Dr. Louise Damen, 10348 Carrollwood Lane, Apartment 185, Tampa, Florida 33618

Data which formed the empirical basis for this study were collected from both documentary sources and field observations. Data concerning the growth, development, formative influences and characteristics of senior group programs in Florida from 1960 through 1977 were used. These data were obtained by examination of project applications for federal funding submitted to the State Program Office of Aging and Adult Services, Department of Health and Rehabilitative Services, Tallahassee, Florida; the Directory of Senior Centers and Clubs: A National Resource (Leanse, 1974), a publication of the National Institute of Senior Centers; a mail survey to directors and administrators in a selected sample of senior group programs in Florida; and personal interviews and observation in representative programs

Summary of Findings

An analysis of data drawn from the national survey of senior group programs reported in the Directory of Senior Centers and Clubs indicated that programs could be typed by sponsorship using the variables of auspices and funding source. Auspices were defined as a characteristic of the agency or organization charged with administrative responsibility for programs. Funding source was defined as the origin of the major monetary support for a given program.

These variables were employed to construct a typology of community senior group programs. Eight types were identified. These were:

Type I - Public funding source/ Public auspices
Type II - Public funding source/ Quasi-public auspices
Type III - Public funding source/ Associational service auspices
Type IV - Public funding source/ Private auspices
Type V - Private funding source/ Public auspices
Type VI - Private funding source/ Quasi-public auspices
Type VII - Private funding source/ Associational service auspices
Type VIII - Private funding source/ Private auspices

Applying this typology to the Florida programs listed in the Directory of Senior Centers and Clubs, it was found that the largest number of programs were funded from public monies and were offered under public and quasi-public auspices. The predominance of the quasi-public auspices as a new institutional form emphasized the need to gather additional data on senior group programs as settings for educational and recreational services and activities for older adults.

A survey of a theoretical sample of community-based senior group programs in Florida was undertaken to gather these data. The survey was designed to investigate two aspects of the program environment: the role of the participant and the stated goal of the program in question. The investigation of these two aspects was prompted by the recognition of two influences in the development of senior group programs in the United States. The first was the identification of the elderly as a social problem, in need of protective services and the target of social concern. The second was the general consensus that the elderly should also remain as independent and contributing members of society.

The results of the survey suggested that the goals which are intended to protect and serve the needs of the participant did not lend themselves to the maintenance of an independent role for the participant. Evidence for such a conclusion was based upon the observation that publicly funded programs offered proportionately fewer opportunities for program direction, meaningful volunteer roles, self-help or self-advocacy roles for participants; subordinated educational and recreational activities as means of services delivery rather than for participant development; and encouraged organizational patterns for these activities which fostered passivity on the part of participants.

The support for the importance of program goals and participant roles as formative influences in given programs prompted their selection as variables in the construction of a typology of settings of community-based senior group programs. Four types of settings as polar points along the two continua, program goal and participant role, were formulated. Program goals were described as agency-centered or participant-centered. The participant role was in turn represented at its polar points by the citizen-constituent role on the one hand and by the client-patient role on the other. It was proposed that these points were represented in two models of community organization practice: social planning and locality development (Rothman, 1974). In applying these concepts to senior group programs it was suggested that such programs were in fact specialized communities of older adults.

Based upon these formulations, the following four settings were proposed:

Type I Setting - Agency centered goals/ Client-patient roles
Type II Setting - Agency centered goals/ Citizen-constituent roles
Type III Setting - Participant-centered goals/ Client-patient roles
Type IV Setting - Participant-centered goals/ Citizen-constituent roles

It was suggested that Types I and IV settings have congruent program goals and participant roles, while in Types II and III they are incongruent. Type I settings, with client-patient roles and agency-centered goals, can be characterized as administered communities, that is, as artificial communities which provide protective and socializing environments in transitory living arrangements (Angrosino, 1976; Kushner, 1973; Weingrod, 1962, 1966). As an example of a social planning model of community organization practice, Type I settings accord a dependent role to the participant and give primacy to agency-centered goals' attainment. Their primary concern is the efficient and effective delivery of services under the expert supervision of trained professionals. Goal setting and objectives attainment are seen as functions and responsibilities of the staff and are arranged through directed change aimed at the participants. Participants are assumed to be dependent and in need of professional help. They are assumed to function at a marginal or subsistence level and are in need of a therapeutic environment. Educational activities, when offered to participants, are concentrated on the meeting of needs at the coping level. Educational opportunities, via training, are likely to be more prevalent for staff than for participants.

Type II settings are characterized by an active citizen-constituent role for the participant in an administered community whose program goals remain agency-centered. Engagement of participants in decision-making capacities may be emphasized but the focus on this engagement will be more toward manipulation to accept and support predetermined program goals than in the establishment of goals reflective of the desires of the population being served. Participants may be regarded as being both clients in need of professional services and as free agents who may leave the program or setting when they desire. Educational offerings are primarily focused upon serving lower level needs but because the participant role allows more freedom of choice, program offerings must be more responsive to what the participants will support as well as being compatible with the administrative needs of the agency and staff.

Type III settings are characterized by a passive client-patient role for the participant in situations where participant-centered goals foster a less protective or limiting climate than found in Types I and II. There is more involvement sought for the participants in the planning of the program and in administrative decision-making as desirable mechanisms which facilitate the development of self-help capacities. However, other factors are at work which limit the realization of an active stance for the participant. In these settings, educational offerings may focus upon the development of participatory and self-actualization activities but the participants client role may be incompatible with such opportunities.

In both of these last two settings the goals and roles are not congruent so that conflicting forces may make it difficult for the designers of educational activities to assess prevailing learning conditions. As a result, objectives of educational activities in such settings may be inconsistent with program goals and/or participant roles.

Type IV settings offer the highest degree of independence to the participant. The focus upon participant-centered goals along with citizen-constituent roles serves to enhance the involvement of the participant in program activities. The participant is a collaborator rather than a consumer and a citizen-constituent rather than a client-patient. There is a congruency of role and goal. These characteristics represent the ideal setting for adult learning as it has been described in adult education literature (Knowles, 1970). In such settings the educational objectives will also be program objectives. It is in these settings that the meeting of self-actualization and transcendence needs may become the focus of educational activities.

A word of caution needs to be raised at this point. The designation of a setting as a Type I or a Type II should not be interpreted to mean that one is better or worse than the other. Rather, they should be considered as being different in intent and consequence. Under different conditions any of the setting types could be the most appropriate in providing the ideal learning climate for participants. Indeed, given certain health conditions of participants, a Type I setting may be ideal where other setting types may be grossly inappropriate.

Conclusions

While this study used a grounded theory approach to observing community-based senior group programs in Florida, hypotheses based upon the findings can be suggested which apply to senior group programs in other states as well as to other adult education ventures. Two general categories of hypotheses have been derived. The first focuses upon the relationship between types of programs and settings. The second focuses upon the relationships between setting types and the characteristics of the learning environment. Among the hypotheses concerned with types of programs and settings were:

1. While there is no predictable relationship between a given program type and a program setting, programs which are publicly funded under governmental auspices are more likely than other program types to exhibit the characteristics of a Type I setting.

2. Programs which are privately funded and under non-governmental auspices (Types 7 and 8) are more likely than other program types to exhibit the characteristics of Type IV settings.

3. While program types are likely to remain constant, program settings may be changed through the adjustment of program goals or participant roles.

Hypotheses suggested concerning the relationship between setting types and characteristics of the learning environment include:

1. In a Type I setting with a client participant role and agency-centered goals: a) Fewer formal (structured) learning opportunities for the participant will be offered and a greater number of staff and professional training episodes will occur;

b) Formal (structured) learning opportunities for the participant will be restricted to instrumental objectives as defined by the staff or external regulations as a means of attainment of one or more of the program's stated goals;

c) Educational objectives will be determined by internal administrative personnel of the program rather than by participants or by educational resource persons external to the program;

d) Participation levels by program participants will be low and motivation to participate weak;

e) Learning activities will be short, sporadic, limited in content, and episodic;

f) Participants will have little or no input into the planning process for educational activities;

g) Formal educational activities will exhibit characteristics of the pedagogical model of adult learning, program design, and implementation;

h) Informal (unstructured) learning episodes will occur which reinforce learning associated with socialization to a role as an older adult either in the current negative context or to social alienation and denial of old age.

2. In a Type II setting with a citizen participant role and agency-centered goals and in a Type III setting with a client participant role and participant-centered goals:

a) The tendencies noted above will be obscured by the presence of incongruence between program goals and participant roles;

b) Educational objectives appropriate in a Type II setting may not be attainable in a Type III setting and vice versa, due to differences in agency goals and participant roles.

3. In a Type IV setting with a citizen-participant role and participant-centered goals:

a) Greater emphasis will be placed upon both formal and informal learning opportunities designed to serve higher level adult learning needs;

b) Program goals and educational objectives will be perceived as congruent by the staff and the participants;

c) Participants will be either actively engaged in or in charge of program planning;

d) Participation levels will be high and motivation for participation will be strong;

e) Informal (unstructured) learning opportunities serving self-actualization needs of participants may occur and will be enhanced by the co-occurrence of formal educational opportunties which address developmental tasks unique to the life span in the older years;

f) Strong socializing mechanisms related to the development of supportive peer groups will develop and encourage successful socialization to old age in a positive context with the identification of new role models, role specifications, positive reference groups, new role sets, and new self images (Rosow, 1974);

g) The setting climate will be closely related to that recognized in the field of adult education as most conducive to adult learning (Knowles, 1970).

Implications of This Study

This study demonstrated that an investigation of the characteristics of community-based senior group programs and their settings can yield considerable insight into variations that exist in adult learning environments. It addressed the need for additional data about these programs and the educational activities occurring in the context of these programs. It also investigated some of the learning conditions which may be expected to exist in given types of programs and given types of settings.

Two areas of concern have not been directly addressed. These are the role of professional educators in community-based senior programs and the role of education in the later years. It is hoped that the insights provided in this study may be the foundation for additional studies which will investigate these two problems. The role of the professional educator should be investigated not only as the designer and facilitator of learning activities in these contexts but also as the moving force in the development of alternative patterns of educational activities geared to different types of programs in various settings. The current role of the professional educator is that of an outsider who is called upon when needed and then dismissed. A strengthening of the role of the professional educator as a member of the program "team" should provide more opportunities to assess the learning conditions in given programs and to assist in the clarification of the role of education in the later years. The person, adult educator or not, who designs and facilitates the learning activities in these programs must take into account the climatic forces at work in order to provide the best possible learning conditions in each program.

No professionals have a greater stake than adult educators in developing alternative educational models, if the privilege of lifelong learning is not to be withdrawn at the age of 60. It is no longer enough to give lip service to lifelong learning. It is necessary that conditions prevail which make this possible. The alternative is to relegate a growing proportion of the nation's population to a never-ending game of bingo. Such waste is unconscionable in terms of human potential. It is unthinkable in terms of the numbers who would be so served in the years to come.

References

Angrosino, M.V. Anthropology and the aged: A preliminary community study. The Gerontologist. 1976, 16(2), 174-180.

Glaser, B.G. & Strauss, A.L. The Discovery of Grounded Theory. Chicago: Aldine Publishing Company, 1967.

Kushner, G. Immigrants from India to Israel: Planned Change in an Administered Community. Tucson: University of Arizona Press, 1973.

Leanse, J. Directory of Senior Centers and Clubs: A National Resource. Washington, D.C.: The National Institute of Senior Centers, The National Council on the Aging, Inc., 1974.

Moody, H.R. Philosophical presuppositions of education for old age. Educational Gerontology, 1976, 1(1), 1-16.

Rosow, I. Socialization to Old Age. Berkeley: University of California Press, 1974 (Paperbound Edition, 1977).

Rothman, J. Three models of community organization practice. In F.M. Cox, J.L. Erlich, J. Rothman & J.E. Tropman (Eds), Strategies of Community Organization. Itasca, Illinois: F.E. Peacock, 1974.

Weingrod, A. Administered communities: Some characteristics of new immigrant villages in Israel. Economic Development and Cultural Change. 1962. 11 (1), 69-84.

Weingrod, A. Reluctant Pioneers: Village Development in Israel. Ithaca: Cornell University Press, 1966.

A SOCIAL SYSTEMS APPROACH TO THE ANALYSIS OF COMMUNITY DEVELOPMENT PILOT PROJECTS

David Deshler, Assistant Professor
Community and Family Life Education
Cornell University*

PURPOSE OF THE STUDY

In recent years some institutions of higher education have increased their activity and sponsorship of community development pilot projects with local citizens, community agencies and local public decision makers in order to address problems such as poverty among migrant farm familes, inequity of access to human services, poor housing, nutrition, and unemployment. Evaluative research has reported varying degrees and types of consequences for community groups as well as for institutions of higher education which sponsored them (Deshler, Farmer, Sheats, 1975; Farmer, Knox, 1977). The present study built upon these research efforts and added an explicit use of social systems concepts as a promising source of explanations for the changes which were reported in the four independently funded community development pilot projects which were undertaken within the last ten years by Cornell University, Ithaca, New York. A secondary purpose was to inform policy decisions regarding future program development efforts on the part of Cornell based Cooperative Extension administrators. Although many social systems concepts were considered, the following three were selected as most relevant to the concerns of the Cornell decision makers: 1) conflict vs. consensus; 2) hierarchization; and 3) self-stabilization. Theory testing consisted primarily as a search for negative evidence that would refute the use of the above systems concepts in providing explanations (Becker, 1961).

REVIEW OF LITERATURE AND DEFINITIONS OF CONCEPTS

Webster (1972, p. 997) defines a system as "an organized or complex whole . . . an assemblage or combination of things or parts forming a complex or unitary whole." A systems approach does not seek to study a phenomenon in a vacuum. Von Bertalanaffy (1975) after 40 years of study is credited with originating the study of general systems. He recognized the limitations of reductionism -- the tendency to reduce complex phenomena into elementary parts and processes. His work emphasized the recognition of similar concepts, principles, and models in widely different fields. Systems concepts have been used in research in many disciplines, especially in the study of business organizations. Their application to educational phenomena and to community development has been more limited. However, many of the concepts have been used in the study of the adoption of innovation, (Havelock, 1973).

There are many approaches to explaining general systems and social systems concepts. However, for purposes of this study two concepts from the work of Laszlo (1969, 1972, 1974) and one from the work of Sztompka were used. Laszlo identified four "basic system invariances," or system properties, which for him were the basic factors in an attempt to understand

---

*Department of Human Service Studies, New York State College of Human Ecology, Cornell University, Ithaca, New York 14853.

". . . the unity which underlies phenomenal diversity" (1974, p. 210), and which are a useful synthesis of the fundamental and more general concepts of systems theory. The four concepts are as follows: 1) order and irreducibility; 2) self-stabilization; 3) self-organization; and 4) hierarchization.

The concept of hierarchization refers to the alleged tendency of all systems to arrange themselves in hierarchies of structure and function. It is asserted that they seem to do so in order to adjust to changing internal and external conditions. The more systems that become involved, the more likely they will adopt differentiated functions, specializations and a superordinate coordinating system in some hierarchical order. Hierarchy also may refer to the way parts are ranked in the order in which energy is distributed (Anderson and Carter, 1974). The following types of questions were asked in order to examine hierarchization related to the four pilot community development projects and the systems interacting with them: 1) Who was included in the palnning for the project?; 2) Who determined the goals and objectives of the project?; 3) Who has power to hire and dismiss staff, approve budgets and make administrative and policy decisions?; 4) Will you draw a map showing the administrative structure of the project in relationship to Cornell, the county Cooperative Extension Association, and any other groups?; and 5) Explain the relative status of persons in the project, at Cornell, in the county Extension Association(s), and any others who have influence over the project.

The concept of self-stabilization refers to the alleged proclivity of open systems to pursue a steady-state existence in order to survive or grow. Survival, however, implies a kind of stability, while growth implies a set of changing internal conditions. These seemingly contradictory requirements of living actually prompt the system to pursue a kind of equilibrium state, which is the "best of both worlds" that lies between a static condition of no growth and a condition of chaos. The steady state, then is not a static state, but one which represents ". . . a level of equilibrium between the internal constraints among the system's components and the forces acting on it from the environment" (Laszlo, 1974, p. 215). The following types of questions were asked in order to examine self-stabilization in each of the four pilot community development projects and the systems interacting with them: 1) How has the project changed since it began?; 2) What forces have influenced these changes?; 3) What form did the project take or must it take in order to continue, be adopted, or survive?

The concept of consensus vs. conflict refers to the alleged tendency of systems to resolve conflict, inharmonious relationships or incompatibility of elements and subsystems (Sztompka, 1974, p. 65). The conflict might be the result of competition for scarce resources, goal conflict, or incongruities between the aims of a system and the means of achieving them. The following types of questions were asked in order to examine conflict vs. consensus in each of the four pilot community development projects and the systems interacting with them: 1) Over what issues has there been conflict in the implementation of the Project? Have any been resolved? How?; 2) To what extent has there been approval or disapproval of the project on the part of the local Cooperative Extension Association(s), Cornell, and other agencies or groups?; 3) Are there any critical incidents which were turning points in these relationships?; and 4) How would you describe the leadership styles of project staff members as they related to Cornell, the local Cooperative Extension Association(s) and to other agencies and groups?

METHODOLOGY

This study used an ethnographic research design which emphasized a naturalistic-ecological perspective in the collection of 'ex post facto' qualitative-phenominological data (Wilson, 1977, pp. 243-265). The population included four independently funded community development pilot projects which were undertaken within the last ten years by Cornell University, Ithaca, New York. Qualitative content from 20 interviews with informants from various role perspectives (New York State Cooperative Extension administrators, faculty members, project directors, project staff, and county Cooperative Extension Association staff members and volunteers) was thematically analyzed by making judgments on the cumulative significance of a series of items reported in relationship to three selected concepts drawn from systems theory. The selection of informants was based on nominations from persons who were initially interviewed as well as from documents, reports, and evaluation studies. Documents were also used to corroborate or supplement data from informants.

FINDINGS

Cornell University, provides the land grant resources for New York State's Cooperative Extension system which includes county offices in each of 55 counties. These local programs receive over half of their budget support from county tax dollars. Programming is usually initiated by the local county Cooperative Extension Association which tends to be responsive to the political realities of county government. The four community development pilot projects were exceptions to the typical program development process since they were all initiated by Cornell in response to national pressure to expand the constituencies of Cooperative Extension to include both rural and urban poort. The four pilot projects included: 1) The Wayne County Migrant Project; 2) The Mid New York Community Resource Development Project (Syracuse Metropolitan Area); 3) The Chenango County Rural Development Project; and 4) The Wyoming County Rural Community Development Project. Each project will be briefly described in relationship to the three systems concepts defined above.

The Wayne County Migrant Program

In order to show responsiveness to demonstrations from faculty and students over the needs of migrants in Wayne County, New York State Cooperative Extension administration, without the involvement and consent of the local county Extension Association, hired staff to do something about the problem of migrants in Wayne County.

Conflict vs. consensus. The staff proceeded to conduct grass-roots organizing activities among the migrants. The county government and the growers were upset and the local Extension Association felt that its local funds were threatened. Cornell responded by providing new staff who modified the goals of the project from systemic change in power relationships through advocacy to education of migrants and the persuasion of social agencies to provide better access to services.

Hierarchization. At first the control of the project was delegated by Cornell to the staff. After conflict over goals arose, Cornell exercised authority in the selection of new staff persons who were more acceptable to Extension's traditional functions. A local advisory committee was formed with equal representation from Cornell, migrants and the local Extension Association. This group was later dismissed and the project was made accountable to a Cornell based advisory group.

Self-Stabilization. The project at the beginning was very unstable and was under attack from a threatened environment. It later built relationships with and provided resources to local county agencies in addition to teaching migrants. It has become a tolerated activity which pays rent to the local Extension Association for the use of "out back" building space. The project probably will never be adopted by the local Extension Association even though it has stabilized its funding from several state sources of funds which pass through Cornell.

Mid New York Community Resource Development Project

New York State Cooperative Extension administration initiated the project with special federal funds from the U.S. Department of Agriculture. The project's purpose was to test the feasibility of bringing together rural and urban groups in a nine county area surrounding metropolitan Syracuse in order to address community problems including access to human services.

Conflict vs. Consensus. The project was tolerated at first by the local Extension Associations, then later respected because the goals, roles of staff, and methodology of the project were considered to be supplementary to local Extension efforts and congruent with local goals. It was reported, however, that some competitive attitudes were expressed by regional planning boards. Many agencies and groups, both rural and urban participated.

Hierarchization. The project, which was initiated by Cornell was adopted by a regional group of Cooperative Extension agents who in turn involved other agents, county agencies, state officials and faculty from several departments at Cornell. Cornell administration met with county government decision makers to explain the project and obtain cooperation. An advisory council of agency representitives was organized. Cornell employed the staff, but delegated authority and encouraged faculty participation. Task forces addressed various problems with the help of research reports prepared by Cornell. Job descriptions of staff were purposely left loose at the outset and later defined as differentiation of function emerged. After a crucial positive evaluation, Cornell program staff became more actively involved.

Self-Stabilization. This fledgling, experimental, coordination, linkage and technical assistance effort provided a demonstration role model for regional community resource development (CRD) efforts on the part of Cooperative Extension. The idea was adopted by Cornell and local county Extension. Specialists have been added to other regions. Many of the linkages between Cornell and the agencies have continued as well as some committees. Although the project terminated the staff continued to be employed for similar efforts.

The Chenango County County Rural Development Project

Faculty members in the Departments of Rural Sociology, Agricultural Economics, and Communication Arts, without initial involvement from College or New York State Cooperative Extension administration initiated a community development action/research project in Chenango County.

Conflict vs. Consensus. The effort was oriented toward organizing the poor in order to confront the agencies and power structures about the lack of services. The county Cooperative Extension Association was aware of the effort and did not want to become involved since advocacy methods were inconsistent with its traditional role. Rural poor with the help of faculty and their field staff confronted the agencies through demonstrations. The Cooperative Extension Association and county government put pressure on the governor to intervene in order to stop the project or modify its goals. Goals were redefined to include the building of linkages to state agencies. Faculty members and others who favored confrontation discontinued their participation. Local social service agencies did begin to provide some services to eligible poor. A traveling service center (bus) was instituted.

Hierarchization. The faculty effort began as a loose structure with nobody in charge. A separate office from Extension was opened so that the project would not be viewed as contaminated with the power structure in the eyes of the poor. The staff worked independently in conducting uncoordinated interdisciplinary action/research. However, after the governor's intervention a community advisory group was formed. Cornell employed staff who were committed to collaborative planning. College and New York State Cooperative Extension administrators met with local government and Extension staff to redefine relationships. Some accommodation and recognition of roles occured.

Self-Stabilization. The project changed from a volatile erratic activity to a more defined predictable entity before terminating. Some of the linkages continued. The county Extension Association has initiated several programs oriented toward the rural poor. New York State Extension administration has become very sensitive about establishing any community development projects independently from local county Extension efforts. At the same time, however, it has increased its funding of CRD program efforts. Some agencies that were threatened by the project discussed the issues internally and later made decisions to accommodate themselves to some of the demands.

Wyoming County Rural Community Development Project

After having experienced the Chenango project, Cornell experimented with a project which can be characterized as an extreme opposite. Cornell invited several county Extension Associations with weak or no community development programs to apply for a no-strings-attached grant for three years to undertake whatever community development projects the county decided without Cornell's influence or guidance unless specifically requested. Wyoming County was selected for reasons which were never disclosed.

Conflict vs. Consensus. Cornell administrators reported that they wanted to find out if anything more worth while in community development would occur without Cornell's control than with Cornell's active involvement. Cornell's abdication of leadership appears to have removed the potential for expressed conflict between the project and Cornell administration. The Extension Association project advisory committee selected projects which were described as low risk and were intended to avoid controversy (i.e., wagon train bicentennial celebration, directory of community services, oral history, artisan's guild, youth conservation corps, and a child care survey). The migrant issue was avoided. The selected projects were, for the most part, congruent with county government's values and did not require additional county tax dollars.

Hierarchization. The county Extension Association in Wyoming County, as in most New York counties, appears to be in a subordinate position, first to the local county government and second to Cornell. The project from the start was subordinate as an add-on to the "regular" program. During the three years the project relationships do not seem to have changed.

Self-Stabilization. The amount of funding for the project remained constant for the three years, and the project has been stable except for a period of uncertainty when the director left and was replaced after several months. Now, at the end of the three years there is uncertainty. The project is seeking to be adopted. There is little hope that county government will increase its allocation to Cooperative Extension to enable the project to continue. The other agents are reluctant to substitute the new program for their regular programs. Some of the activities have already achieved independence. A few activities may be added to the work loads of the "regular" agents. Self-stabilization activities seem to be underway, however, it is uncertain whether they will be successful, given the low priority attributed to the activities.

CONCLUSIONS AND IMPLICATIONS

The community development projects which were examined differed at their inception on the extent to which they desired to cause or avoid conflict. Two of the four provided the disturbance which caused several other systems to move to resolve conflict. The other two projects avoided overt conflict by selecting activities which apparently were congruent with the goals of the interacting systems. The conflict vs. consensus concept does appear to be helpful in explaining the extent of accommodation which may accompany any conflict oriented project, or the lack of change in the goals of participants when projects are designed to be congruent from the outset.

Although the projects differed in the extent that Cornell exerted control, the hierarchization concept appears to explain the lack of effect of the projects on county Extension Association priorities which appear to be subordinated to county government, apparently due to the large share of Association's budgets which are derived from this one source. There was evidence in all of the projects, however, that hierarchization tended to increase in response to threat as well as in response to differentiation of functions.

The concept of self-stabilization appears to be very useful to explaining bridge building behaviors of two of the projects during their formative stages as well as during the period when the issue of adoption became imminent. The concept is even more helpful in explaining behaviors of systems whose equilibrium may have been upset by activities of projects. Still further, the concept seems helpful in explaining why some projects did not select activities which were high risk, while other projects exerted energy toward radical change.

In the limited cases examined, there is little evidence to refute the soundness of the systems concepts of conflict vs. consensus, hierarchization, and self-stabilization in providing meaningful hypothesis for examining the changes which occur to community development projects sponsored by institutions of higher education.

REFERENCES

Anderson, R. and I. Carter. Human Behavior in the Social Enviornment: A Social Systems Approach. Chicago: Alcline, 1974.

Becker, H., et al. Boys in White. Chicago: University of Chicago Press. 1961.

Deshler, J.D.; J. A. Farmer, Jr.; and P. H. Sheats. Developing Community Services in the Seventies: New Roles for Higher Education. Los Angeles: Laboratory for Research on Higher Education, Graduate School of Education, University of California, Los Angeles, 1975.

Farmer, J.A., Jr.; and A.B. Knox. Alternative Patterns for Strengthening Community Service Programs in Higher Education. Irbana, Illinois: Office for the Study of Continuing Professional Education, University of Illinois, 1977.

Havelock, R.G. Planning for Innovation through Dissemination and Utilization of Knowledge. Ann Arbor, Michigan: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, The University of Michigan, 1973.

Kuhn, A. The Logic of Social Systems. San Francisco: Jossey-Bass, 1974.

Laszlo, E. A Strategy for the Future: The General Systems Approach to World Circles. New York: George Braziller, Inc., 1974.

_________. Introduction to System Philosophy. New York: Gordon and Breach, Inc., 1972.

_________. The Relevance of General Systems Theory. New York: George Braziller, Inc., 1972.

_________. System, Structure and Experience. New York: Gordon and Breach, Inc., 1969.

Sztompka, P. System and Function: Toward a Theory of Society. New York: Academic Press, 1974.

Von Bertalanffy, L. Perspectives on General Systems Theory. New York: George Braziller, Inc., 1975.

Webster, D. The Living Webster Encyclopedia Dictionary of the English Language. Chicago: The English Language Institute of America, 1972.

Wilson, S. "The Use of Ethnographic Techniques in Educational Research," Review of Educational Research. Vol. 47, No. 1, pp. 245-265, Winter 1977.

A Study of the Impact of Public Opinion
upon
Educational Decision-Makers

Phyllis C. Safman
University of Illinois Urbana/Champaign*

Introduction

From January to June, 1977, the Program Development Staff from the Office of Continuing Education and Public Service conducted a project in "Merkim", Illinois, a rural community with a population under 2600. This project accomplished the following objectives:

1. assisted educational decision-makers in the gathering of survey data on community attitudes that were relevant to their decision-making roles;
2. developed a process for data gathering and dissemination which involved the community and the university;
3. provided a summary of the data which was given to the community for its consideration and interpretation during two public forums.

One year later, a second study was conducted in Merkim. The purpose of the second study was to examine the relationship between the citizen participation process of the initial project and its impact on Merkim's educational decision-makers as manifested in their subsequent decisions and activities.

Critical Review of Literature

Preliminary to doing the field research for the impact study, a literature review was conducted which centered around four major areas: public opinion; theories explaining public opinion; citizen input for change; and models assessing impact. Public opinion polls regarding the quality of public education have been consistent over the last eight years. The public has continued to believe that devoting more attention to teaching basic skills, enforcing stricter discipline, improving parent/teacher relations, emphasizing career education and increasing communication between school and community are important (Bedenbaugh, 1973, Brainard, 1977).

Theories explaining why people express the opinions they do vary. Eriksen and Luttbeg report that interpreting responses on opinion polls is difficult because of the number of not well informed opinions given (Eriksen and Luttbeg, 1973). On the contrary, Converse contends not that respondents change their minds with more information but that they give little or no thought to an issue which is not pressing (Converse, 1964).

*Reprints may be obtained by writing to Phyllis Safman, Institute for Environmental Studies, 408 S. Goodwin, Urbana, IL 61801

Some experimentation with citizen input into decision-making of school boards has brought questionable results. Several authors report that public opinion has little impact upon policy (Eriksen and Luttbeg, 1973; Saliterman, 1971). However, Elam found that first hand experience between boards and communities produce favorable attitudes (Elam, 1974).

A review of the literature provoked two questions:

1) What effect, if any, does public opinion have on decision-makers as indicated by the decisions that are made?
2) What arouses the public to become better informed, to use and to interact with information?

Several approaches and models were examined that were thought to help explain the impact of the initial Merkim project upon Merkim's educational decision-makers. Cobb posited three approaches to assess impact (Cobb, 1972). These are: power-agenda; decision-making; group pressure. The power-agenda approach focusses on how items enter the agenda and who attends to and has influence over agenda. The decision-making approach was amended by this study to include the recording of identifiable decisions. The group pressure approach holds that policies develop out of confrontations by groups. The notion of "continuation" (Farmer and Knox, 1977) as a way to judge bona fide development of programs and the suggestion by Katz that impact needs to be studied through citizen involvement in policy making also guided the inquiry (Katz et al, 1975). Tested was Eriksen and Luttbeg's contention that public opinion has little impact upon policy (Eriksen and Luttbeg, 1973).

Methodology

Population

The persons involved in the planning stages, forums, and who were recipients of the final report from the initial project included seven members of the school board, the superintendent, and two representatives from both the Citizens Advisory Committee (CAC) and the Merkim Teachers Association. These twelve persons were intimately involved with the initial project, the school system, and their organizations. This placed them in a classical sociological position to provide data to assess impact (Becker, 1961).

Design

The impact data were gathered by using elite and specialized personal interview with interview guide (Dexter, 1970). Supplementary data were found in documents in Merkim. These included the Merkim weekly newspaper, the school district Newsletter, and minutes of the school board meetings.

Instrumentation

The interview guide was designed to elicit qualitative and quantitative data. The instrument probed four areas of concern to Merkim residents which surfaced in the initial project data. These four included: curriculum--its content; communication between school and community; budget cuts--their effect; attitudes (apathy) regarding morale in the school and community. Also probed were areas found to be of concern to the respondents. The instrument was designed to generate data concerning influence, process, and outcome variables relative to the impact of the initial project. The nature of the questions reflected the three approaches by Cobb (1972) and the two models (Farmer and Knox, 1976; Katz et al., 1975).

Data Collection

Data collection was handled in the following way:

1. Phone calls were made to each prospective interviewee explaining the project and seeking permission for their participation in the interview. This complied with the Use of Human Subjects policy for the University of Illinois at Urbana-Champaign;
2. Interviews ranging from 46 to 60 minutes were given;
3. Documents which were evidence of and relative to project impact were examined, i.e., newsletters, news articles, and minutes of meetings;
4. Data were analyzed

Analysis

In order to assess impact, a content analysis (thematic) was made on the data (Merton, 1968). Included among the themes were opinions about the four areas of concern to Merkim's residents: curriculum; communication; budget cuts; and attitude (apathy). Variables were differentiated into three categories: influence; process; outcome (Farmer and Knox, 1977). Through the use of grounded theory (Glaser and Strauss, 1967), categories generated from the data served as sources of analysis. In examining the causal statements, four categories emerged which facilitated the assessment of respondents' perceptions of causality. To help insure validity, the method of multiple triangulation was employed (Denzin, 1970). Data were interpreted through the three approaches and two models (re: literature review).

Findings

Causality

All 12 respondents stated at least one change that occurred subsequent to the initial project that had a direct, associated, or implied causal link with the initial project. Out of the 26 causal statements, four were disclaimers, that is, they denied any causal link between the initial project and subsequent changes in the school system.

Part of Initial Project Associated with Change

Of the four parts of the project: planning meetings; data gathering; forums; final report, the forums were cited most often as that part of the initial project contributing most to changes made in the school system.

Agenda

Half of all respondents reported that their organizations possess in writing the procedures that govern the formation of their agendas while the other half reported that their organizations possess no such written procedures. Those reporting that the procedures governing the formation of the agenda are in writing also reported that no one had any special influence over the agenda. Oppositely, the half that reported that the procedures for development of the school board's agenda is not in writing also reported that some persons do have more influence over the agenda than do other members.

Decisions

Decisions were made by the school board in three of the four major areas of concern identified in the initial project: Curriculum; communication; apathy. Seven out of the twelve decisions made provisions for the continuation of the effect of that decision.

Citizen Involvement

Seven out of 12 respondents reported citizen involvement in the school system to be "greater" than involvement before the initial project. Answers appeared to be dependent upon whether attendance at meetings or involvement in activities related to the school system was the referent.

Newsletter

The Newsletter regularized its circulation schedule and a secretary was hired ½ time to oversee its operation.

Discussion

Impact as it related to this study was thought to be best understood by answering two questions that arose in the literature review:

1. What effect does public opinion have on decision-makers as indicated by decisions that are made?
2. What arouses the public to become better informed, to use and to interact with information?

What effect does public opinion have on decision-makers as indicated by decisions that are made?

As was indicated in the findings and more thoroughly documented in the analysis, decisions were made in three of the four areas of concern, curriculum, communication and apathy. The data provided some indication of the influences and processes that surrounded each decision. The influence variables included, in part, public opinion as expressed in the survey and forums. The causal statements that were made by respondents state explicit links between the information shared during forums and changes made (via decisions) in the school system. Thus, in the minds of most of the respondents some sort of causal linkage exists.

At best we could say that in part public opinion as expressed in the survey and presented during the forums did have an effect on policy. This is at variance with Eriksen and Luttbeg who contend that public opinion has little impact upon policy (1973).

In the Merkim case study another factor is to be considered. A crisis, financial disability, was facing the school district if an upcoming tax referendum failed. This may have made the school board more amenable to hearing the complaints of teachers and community members in a public setting.

The need for better communication by the school board and administrators was a recurrent theme running through both forums. If we look at the impact not only of public opinion upon decisions but citizen involvement through attendance and discussion during the forums, we have done as Katz suggested and found some linkage between citizen participation and decisions which set and demonstrate policy (Katz, 1975).

In summary of the first question, this case study found that public opinion which has been surveyed and presented through the open dialogue of public forums does have some impact upon decision-makers as evidenced by the decisions made subsequent to the initial project.

What arouses the public to be better informed, to use and to interact with information?

In this study, public reaction to the survey data and other information presented during the forums is reported through impressions of the decision-makers interviewed. Sometimes respondent's impressions were contradictory to one another. "The general feeling of Merkim residents" was cited as both being positively affected by the initial project and having not been affected by the initial project. One explanation for this contradiction rests with the referents respondents used. Some based their judgement on personal interactions while others based their judgement on attandance at meetings.

No contradictions existed in the reporting of examples of citizens being roused into action out of crises and/or personal need. Instances of crisis which stimulated segments of the Merkim community to seek, use and interact with information can be viewed through Cobb's group-pressure (confrontation) model. The farmers with their sons who attended the school board meeting to protest the possible loss of an agricultural program, the parents who threatened to file suit against the school board for sex discrimination in athletics, and the group who argued for continuation of freshman sports were motivated out of both crisis and/or personal interest.

The notion of crisis and personal interest as sources of motivation may help to explain respondents differing perceptions concerning influence over the agenda. Certainly, if community members can be aroused by crisis and personal interest, so can individual school board members who may appear more knowledgeable or more vocal about an issue of personal concern (Cohen and March, 1974). This phenomena may have been perceived by respondents as a member exerting or having more influence over agenda items.

Another explanation for the differing perceptions concerning influence over the agenda rests with whether or not policies governing the agenda were thought to be in writing. School board respondents who thought the procedure for developing the agenda was in writing also reported that no one had any more influence than anyone else over the agenda. Those reporting that no written procedure existed reported that some members had more influence than did others. Possibly, in the minds of organization members, written procedures for an agenda may ensure more equality and less likelihood of an overwhelming influence exerted by some members over others.

The notion of influence is addressed in the answer to the question: What arouses people to be better informed, to use and interact with information? Crisis and/or personal interest motivate people to exert influence for the purpose of obtaining some desired change.

Conclusion

While this study indicates that public opinion may find itself included in public policy through the use of public forums, this researcher feels that two areas should be approached cautiously when studying people in their own worlds. These are causal claims and generalizations. To assert that the initial project was the cause of many decisions or even certain decisions is to deny both the nature of the perceptions of adults and the literature on decision-making. Perceptions are affected in part by whatever aspect of a phenomena upon which one focuses (Kohler, 1960).

Decision-makers are affected by and may be attending to any number of influences when making a decision (Cohen and March, 1974). Thus, differing perceptions and multiple factors affecting any particular decision seriously limit our ability to claim direct causality.

This leads to my second area of concern, generalizations. The uniqueness of individual perception and personal condition surrounding decision-making indicate that several small communities need to be studied before generalizations regarding impact of public information upon decision-makers can be made with some degree of certainty. Research conducted in a community is specific to that community and the causality of some event is best thought of as an interrelatedness among many influences that impinge upon the perceptions of an individual and enter into the realm of decision-making for that individual.

Implications

As continuing educators, we need to reconsider our methods of needs assessment, particularly when conducting polls. Polling is only a first step in learning about what people report to be their thinking. When appropriate, public meetings which openly present our data provide an opportunity for others to interact with the data. Public meetings may very well be the second step in determining program direction.

Bibliography

Becker, H. S. et al. Boys in White. (Chicago: University of Chicago Press, 1961).

Bedenbaugh, E. H. "A Commitment to Communication," Intellect. 101, No. 2344, April, 1973.

Brainard, E. "An Analysis of Public Attitudes Toward Education: The Annual Gallup Polls on Education," Journal of Research and Development in Education. 10, No. 2, Winter, 1977.

Cobb, P. W. et al. Participation in American Politics. (Boston: Allyn and Bacon, Inc., 1972).

Cohen, M. D. and J. March. Leadership and Ambiguity. (New York: McGraw Hill, 1974).

Converse, P. E. "Nature of Belief Systems in Mass Publics," Ideology and Discontent. (Glencoe: Free Press, 1964).

Denzin, N. The Research Act: A Theoretical Introduction to Sociological Methods. (Chicago: Aldine, 1970).

Dexter, L. A. Elite and Specialized Interviewing. (Evanston: Northwestern University Press, 1970).

Elam, S. "Attitude Formation: Direct Experience Best," NASSP Bulletin, January, 1974.

Eriksen, R. S. and N. R. Luttbeg. American Public Opinion: Its Origins, Content and Impact. (New York: John Wiley & Sons, Inc., 1973).

Farmer, J. A. and A. Knox. Alternative Patterns for Strengthening Community Service Programs in Institutions of Higher Education. (Office for the Study of C. P. E., University of Illinois, 1977).

Glaser, B. G. and A. L. Strauss. The Discovery of Grounded Theory: Strategies for Qualitative Research. (Chicago: Aldine Pub. Co., 1967).

Katz, D. et al. Bureaucratic Encounters. (Ann Arbor: University of Michigan, 1975).

Kohler, W. Dynamics in Psychology. (New York: Grove Press, 1960).

Merton, R. K. Social Theory and Social Structure. (New York: The Free Press, 1968).

Saliterman, G. "Participation in the Urban School System - A Washington Case," Citizen Participation: Effecting Community Change. (New York: Praeger, 1971).

A Test of Piagetian Cognitive Development Theory Applied to Small Groups

Robert D. Boyd, Professor
University of Wisconsin

Margaret A. Rathert, Graduate Student
University of Wisconsin

Helen L. Steeves, Graduate Student
University of Wisconsin

The idea that group development is analagous or even homologous to individual development is not new (Werner, 1957; Tucker, 1963, and others). Tucker (1963) was the first to hypothesize and test the idea that group members actually recapitulate their own ontogeny in their developing groups. Boyd (1976) has gone beyond Tucker in suggesting (1) that the concept of regression is the key mechanism of recapitulation and justifies the direct operationalization of individual level theories in describing group development, and (2) that the recapitulation of more than one aspect of individual-level development can be observed in small groups.

The research reported here has aimed to operationalize Piaget's theory and test the conjecture that small group development moves in a discernable progression through the pulogical, concrete and formal stages.

Audiotaped meetings of three 15-session, 12-member groups were studied. Pretesting and coding the manual indicated that alternative five-minute tape segments could be reliably coded. Three coders with no knowledge of Piaget's theory or training in group dynamics were employed. The Holsti reliability coefficients obtained at weeks one, two and three were .80, .79 and .73, respectively.

Although the conjecture was not corroborated ($p \leq .05$) the results were encouraging and gave clear evidence that the Piagetian framework can be applied to group transactions. The study pointed to methodological modifications and to theoretical refinements in the application of the Piagetian framework to group development.

Requests for reprints: Send a self-addressed, stamped envelope to:

Professor Robert D. Boyd
276 Teacher Education Building
225 North Mills Street
University of Wisconsin-Madison
Madison, Wisconsin 53706

AN ATTEMPT AT THEORY BUILDING FROM LITERATURE AND FIELD DATA

M. Donald Campbell
Program Development Specialist
Office of Continuing Education and Public Service
University of Illinois at Urbana-Champaign[1]

Introduction

Because theory specific to adult education has been sparse, researchers have tended to use one of three approaches. They may conduct research without tying it to a theoretical base. A second approach is to borrow theory from a related area. Researchers using this second approach typically derive hypotheses from the theory and test them in the study. A third approach to conducting research when adequate theory is lacking is to build theory from field data. The study attempts to generate hypotheses which can then be tested in later research. The Glaser and Strauss (6) "grounded theory" methodology is one way of building theory which has attracted the attention of adult education researchers.

This paper describes yet another approach which was used when existing theory was judged inadequate. The approach draws heavily on the "grounded theory" methodology in an attempt to build theory, but it uses existing literature more extensively than Glaser and Strauss suggest. This combination attempts to capitalize on the strengths and overcome the weaknesses of the latter two approaches above.

The Research Problem

Although the educational potential of community development activity has been recognized for some time, this potential has not been realized. This study sought to understand how this potential could be developed further. It assumed that an adult educator working with a group of citizens on a community development activity could introduce educational activity into that situation. The study sought to determine ways the educator could introduce this educational activity which would lead to growth of the citizen group.

Definitions

1. Community problem solving group--A group of citizens which voluntarily works to solve a community problem.

---

[1] Research described in this paper was supported by the College of Agricultural and Life Sciences, University of Wisconsin-Madison, and by the Cooperative State Research Service-United States Department of Agriculture. For a copy of the entire paper write the author, 103 Illini Hall, 725 South Wright Street, Champaign, Illinois 61820.

2. Community problem-- A social, economic, or physical situation in the community which at least some citizens consider undesirable.

3. Education--"Organized and planned activities in which ... [people engage] for the purpose of learning" (7:134).

4. Adult Educator--A professional whose primary aim when working with a community problem solving group is for education to occur. Although helping the group work toward solution of a community problem, this professional helps the group organize and plan educational activities as part of this problem solving process.

5. Group Growth--The process by which a group continues to develop its capacity to resolve increasingly complex problems. These problems may be community problems and problems associated with the group itself.

Assumptions

1. A community problem solving group, an adult educator, and the community are three key elements in the community problem solving process.

2. Each of these three elements transacts with the others.

3. Although community problem solving activity often leads to social change, other outcomes are important. These outcomes are individual growth, group growth, and community growth.

4. Education can occur as an integral part of an attempt to solve a community problem.

5. The process of education is important in itself. It is not important only as a means to social change.

Review of Relevant Literature

With these definitions and assumptions in mind, an initial search was conducted for potentially relevant literature to serve as the study's theoretical base. Two criteria were used to determine whether the literature reviewed provided this base:

1. The literature's definitions and assumptions should be compatible with the research's definitions and assumptions.

2. The literature should comprehensively discuss the three key elements in the community problem solving process: the community problem solving group, the adult educator, and the community.

The first type of literature reviewed was that which described some form of community action. Alinsky's Rules for Radicals (1), for example, seemed potentially relevant to the study. Upon closer examination, however, this approach did not adequately fit the research. Alinsky emphasizes social action much more than education. He mentions education only briefly and dwells at length on how community action is a war between the "haves" and the "have-nots." Thus for Alinsky education apparently is a means to social change and not important in itself. In addition the professional worker, called an organizer, concentrates more on action than on education. Alinsky also questions whether this professional role can be learned. He wonders, on the other hand, if perhaps only a few individuals have the inherent qualities necessary for the job. Finally, Alinsky stresses social change much more than growth of the organization.

Biddle and Biddle's The Community Development Process (2) was reviewed as another approach to community action. Some important differences were apparent, however, between Biddle and Biddle and this study. First of all, Biddle and Biddle do not sufficiently emphasize the process of education. They state, for example, that "because it develops human beings, community development is an educational enterprise" (2:viii). They apparently assume that because individuals or groups grow while working on a community problem, education has occured. A second difference is the role of the professional. Biddle and Biddle portray this individual as "the central figure in the drama of community development" (2:259), especially in its early stages. This research, on the other hand, did not assume that the professional would in all cases assume such an active role. In addition Biddle and Biddle apparently link an effective professional worker with certain inherent qualities. Finally, Biddle and Biddle's approach to group growth differs from the study. In their view a group proceeds step-by-step through six different phases of community development activity. The group's ability to move through these phases is apparently equated with group growth.

A third example of community action literature reviewed was Franklin's Toward the Style of the Community Change Educator (4). Unlike Alinsky and Biddle and Biddle, Franklin focuses squarely on educational activity as part of the community problem solving process. His professional worker is clearly an educator. Further, Franklin's ideas on group growth seemed compatible with the definitions and assumptions of this study. In spite of these similarities, however, his discussion was not sufficiently comprehensive to serve as a basis for study. Franklin emphasizes only the role of the educator and does not discuss in detail either the citizen group or the group's relationship to the community.

Because the various approaches to community action were not adequate, literature on groups was also reviewed. Since a citizen group was central to the research, this literature seemed potentially useful. Most of it, though, did not fit the research problem. Literature on instructional groups describes learning situations which differ from a community problem solving group. An instructional group focuses on helping its members learn and thus is concerned primarily with situations inside the group. A community problem solving group, on the other hand, is concerned with situations outside the group as well as inside. The group is attempting both to solve some kind of a community problem and to help its members learn. Thus a community problem solving group functions like both a task group and an instructional group.

Literature on task groups did not fit the research problem either. This literature often portrays the group as having relatively well-defined boundaries and as functioning separate from some larger community. A community problem solving group, on the other hand, works closely with the larger community. And because of this close relationship with the community, the boundary between the group and the community is not always as well-defined as for other groups.

Of all the group literature reviewed, Thelen's The Dynamics of Groups at Work was the most compatible with the research problem. Thelen was not used as the basis for this research, however, for two reasons. First, although his discussion of group growth appears compatible with this study, his discussion at times is ambiguous. He seems to understand group growth as developing the capacity to overcome increasingly difficult problems. Yet he also applies the term group growth to a group's moving through a series of organizational phases, similar to Biddle and Biddle's phases. Second, Thelen does not describe the role of a professional educator working with a group. He alludes to such a person but does not discuss this individual directly.

Critique of Glaser and Strauss

None of the literature reviewed, then, provided an adequate theoretical framework for the study. Thus hypothesis testing did not seem appropriate. Instead the researcher sought to generate hypotheses for testing in later research. The Glaser and Strauss (6) "grounded theory" methodology was considered as a way to generate such hypotheses. This approach attempts to generate hypotheses and ultimately build theory from field data.

Both practical and philosophical problems, however, prevented basing the research entirely on the "grounded theory" approach. Practically, the researcher did not have the resources to collect as much data as Glaser and Strauss suggest. More importantly, though, two philosophical difficulties were apparent with their approach, as they describe it. First, Glaser and Strauss state that a researcher should "study an area without any preconceived theory that dictates, prior to the research, 'relevancies' in concepts and hypotheses. Indeed it is presumptuous to assume that one begins to know the relevant categories and hypotheses until the 'first days in the field,' at least are over" (6:33-34). As described earlier, however, some literature fit some but not all of the study's definitions and assumptions. Thus to put aside this literature seemed unwise, for it was a potentially valuable resource. The second philosophical difficulty, which follows from the first, was Glaser and Strauss' ambiguity on the use of existing theory. Although arguing against the use of "preconceived theory," they admit that no researcher "can possibly erase from his mind all the theory he knows before he begins his research" (6:253). Further, they state that "categories can be borrowed from existing theory, provided that the data are continually studied to make certain that the categories fit" (6:36-37). Because of this ambiguity, the researcher had less confidence in the Glaser and Strauss methodology and decided not to rely on it entirely.

Methodology Used in the Study

This study, then, aimed to generate hypotheses for later testing, using a modification of the Glaser and Strauss methodology. Due to the practical difficulties of gaining access to community problem-solving groups, category saturation was not always possible. The main difference, though, was the way existing theory was used.

The study had three major parts. First, categories were developed for both the independent and dependent variables, the influence of the adult educator and group growth respectively. Second, frameworks for both variables were constructed from the relevant categories. The adult educator framework consisted of five dimensions: what, how, when, where, and with whom. "What" the educator does included eight different functions. "How" the educator performs these functions consisted of four styles. The other three dimensions were not systematically developed. The group growth framework had two dimensions: growth related to community problems and growth related to group problems.

The third part of the study consisted of comparing data within and between categories in order to generate hypotheses. To aid this comparison process a crude rating system was developed. Adult educators were rated high, moderate, or low according to the extent they performed various functions. A similar system was used to rank community problem solving groups on the various categories of group growth.

Developing the categories and building the frameworks were accomplished through five different phases. During the study data were collected from a total of 32 potential community problem solving situations in small Wisconsin communities. In the later phases, data collection and analysis concentrated on those situations which yielded the most relevant data. Five community problem solving situations received primary consideration. They were used both to build the frameworks and to generate the hypotheses. An additional five were used in a secondary way to help construct the frameworks. The remaining community problem solving situations did not contribute substantially to the study but did help to formulate some of its definitions and boundaries in the early phases.

Data were collected using interviews, observations, and document analysis. A total of 118 interviews were conducted with 81 persons. Of these interviews, 63 were in person and 55 by telephone. Originally observations of group meetings were to be the primary means of data collection. A variety of difficulties, however, including gaining permission to observe different groups, reduced the number of meetings observed. During the study a total of 14 meetings were observed of six different groups. A total of 125 documents were analyzed, mostly local newspaper articles about the group's activities.

Use of Literature and Field Data to Develop Categories

During the five phases of the study, literature and field data were used to develop categories in three ways. Each way can be illustrated by examining a particular dimension of either the adult educator or group growth framework. The first way can be illustrated by the "what" dimension of the adult educator framework. Educator functions were developed primarily from literature and then compared with field data to determine their relevance to the study. During the second phase of the study a preliminary list of functions was developed from potentially relevant literature. This literature included Alinsky (1), Biddle and Biddle (2), Bruyn (3), Franklin (4), and Gallaher and Santopolo (5). These functions were then compared during the third phase with field data collected using the Glaser and Strauss approach. As a result of this comparison, the list was modified to reflect what the data showed. During a later phase the list of functions was compared again with the field data and modified to its final form of eight functions.

As the study progressed, however, the researcher observed that what the educator did was not the only influence on group growth. In some cases field data indicated that how the educator performed various functions was just as, if not more, influential. Later in the study, then, this evidence from the field led to the development of styles to describe the basic strategy an educator used when working with a community problem solving group.

Three styles, information provider, facilitator, and doer, emerged from data indicating how certain educators worked with their respective groups. These styles were then compared with what the relevant literature had to offer. This literature was essentially the same as had produced the list of functions. It helped to describe the styles further, contributing additional information beyond what the field data showed. It was also used to name the particular styles and even suggested the word "style" to characterize the "how" dimension of the educator framework. The fourth style, the demonstrator, was developed in a slightly different way. It was not observed in the field but was logically derived from the doer style. Data collected on educators using the doer style suggested it was not an appropriate educational style.

The third way categories were developed was by periodically shifting between literature and field data. Categories developed using the previous two ways were suggested by either literature or field data. Then the other source was consulted to determine the category's relevance, describe it further, or modify it. Categories developed using this third approach, however, emerged from both literature and field data somewhat concurrently. As the collection of field data continued over several months, the process of continually comparing field data with the literature helped shape the categories into their final form.

This process is best illustrated by the group growth framework, especially the dimension of growth related to group problems. Early field work suggested several potentially important categories of group growth. Literature on groups suggested other categories, many of which did not appear compatible with the field data categories. Because the researcher valued this literature, categories from both sources were used in the early phases. As the study progressed, though, more compatibility became apparent between the two sets of categories.

As a result of this compatibility, categories from the two different sources were in some cases merged into one category. In another case continual comparison of field data with literature helped merge two categories from two different kinds of literature. In a third situation literature and field data combined to produce a category which expanded on the literature.

Conclusion

This paper has described how one researcher studied the educational potential of community problem solving when existing theory was not sufficiently adequate. It has presented an approach which attempts to generate hypotheses relying in part on the Glaser and Strauss (6) "grounded theory" methodology. The approach differs from Glaser and Strauss, though, by using a combination of literature and field data to develop categories. Three ways this combination helped develop categories in the study have been described. Researchers might use a similar approach to build theory in areas where the existing literature is relevant in some ways but not in others.

References

1. Alinsky, Saul D. Rules for Radicals: A Practical Primer for Realistic Radicals. New York: Vintage Books, 1971.
2. Biddle, William W., and Biddle, Loureide J. The Community Development Process: The Rediscovery of Local Initiative. New York: Holt, Rinehart and Winston, Inc., 1965.
3. Bruyn, Severyn T. Communities in Action: Pattern and Process. New Haven, Conn.: College and University Press, 1963.
4. Franklin, Richard. Toward the Style of the Community Change Educator. Washington, D.C.: National Training Laboratory Institute for Applied Behavioral Science, 1969.
5. Gallaher, Art Jr. and Santopolo, Frank A. "Perspectives on Agent Roles." Journal of Cooperative Extension, 5 (Winter, 1967): 223-230.
6. Glaser, Barney G. and Strauss, Anselm L. The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine Publishing Company, 1967.
7. "What Is Adult Education? Nine 'Working Definitions.'" Adult Education, 5 (Spring, 1955): 131-145.
8. Thelen, Herbert A. Dynamics of Groups at Work. Chicago: The University of Chicago Press, 1963.

AUTOMATIC INTERACTION DETECTOR[1]

Jane F. Flaherty, Ed.D.
Educational Testing Service

Automatic Interaction Detector (AID) is a computerized multivariate analysis procedure which can be used to identify categorical variables which explain the variance in a continuous dependent variable. This paper will present an example of such an analysis, in which the dependent variable is an index of ABE students' interest in learning functional competencies in the APL (Adult Performance Level) knowledge area Occupational Knowledge, an index which ranges from 0 to +3, and in which fourteen predictor variables of five or fewer categories each are examined. (The independent variables are itemized in Table 10, appended to this paper.)[2] This novel procedure could prove expedient to the field of adult education, in which research is often of an exploratory nature and variables are frequently at the nominal level. It can be used in situations in which multiple regression analysis is generally used, yielding results that are more concrete and easier to understand than regression results. Further, AID does not impose the restrictive assumptions of linearity and additivity assumed by regression analysis, although it does require a well-behaved variable without extreme cases or severe bimodalities. While samples of over 1000 are advocated by AID authors, smaller samples may be used if the limitations they impose are recognized.

AID is a programmed method for identifying predictors that best explain the variance in a continuous dependent variable. Several nominal and/or ordinal variables and a single continuous dependent variable are introduced into the program for each analysis. AID's first step is to select the predictor variable that best explains the variance in the dependent variable, that is, to identify the independent variable and the dichotomous split on that variable that will provide the maximum improvement in ability to predict values of the dependent variable. Two mutually exclusive subgroups result from the split, chosen so that their means account for more of the total sum of squares than the means of any other pair of possible subgroups. For the "APL interest index" example, the first split is on the "homeowner" variable: homeowners in this sample have less interest in learning the competencies (mean index = 1.32) than do those who do not own their homes (mean index = 1.86). In identifying this split, AID examines each predictor variable. The printout reports the mean and standard deviation of each category of each predictor variable introduced into the program, along with the N of each category, sums of Ys, sums of Y^2s, and between sums of squares (BSS) for each category. For each variable, AID examines all the possible splits that could occur, and identifies the two subgroups that result from the dichotomous split on that variable that explains the greatest proportion of the variance in the dependent variable, along with the BSS/TSS (proportion of variance explained) and the BSS. Having examined each variable in this manner, AID identifies the variable and the split that explains the greatest amount of variance. The printout includes a "tree," similar to the one in Figure 1 (appended), which shows "parent" groups and their "children."

---

[1] Reprints are available from Jane F. Flaherty, Educational Testing Service, Princeton, NJ 08541.

[2] This is one of six AID analyses presented in a doctoral dissertation by the author, entitled A Multivariate Analysis of Self-Perceived Learning Needs of Undereducated Adults (New Brunswick, NJ: Rutgers University, 1978). Table numbers used in the dissertation are retained in this paper.

Subsequently, AID splits the resulting subgroups, repeatedly asking the question, "What dichotomous split on which single predictor variable will reduce the predictive error more than any other possible split?" Each split involves only one subgroup, or "child," resulting from a previous split. The second split in the example involved only the nonhomeowner subgroup since this was the subgroup with the larger sum of squares, and resulted in a split on the job status variable: nonhomeowners who were unemployed were more interested in learning the competencies (mean index = 2.04) than those who were not (mean index = 1.71). It should be noted that job status does not necessarily explain variance in the homeowner subgroup. In fact, it could happen that, if a similar split did occur on this subgroup, unemployed homeowners would have the lower mean index, thus indicating an interaction between homeowner and job status. This type of result is an advantage over step-wise regression, in which the effect of each predictor is measured over the entire data set. Although it is possible to identify interactions among predictor variables through regression analysis, it is cumbersome and the results are not so straightforward.

For each subsequent split, AID considers all unsplit subgroups, first identifying the subgroup with the largest sum of squares (this statistic is included in the printout tree for each subgroup), then examining all the possible dichotomous splits on each predictor variable to determine which explains the most variance. For each split considered, the printout includes the statistics mentioned above for each category of each variable, followed by identification of the best split and the following statistics: BSS for that split, cumulative BSS, proportion of variance explained for the subgroup being split (BSS/TSS), proportion of variance explained for the total sample (BSS/TOTSS), and the cumulative proportion of the total variance explained by splits up to that point. A t-value is included, so that the significance of the difference between means of children resulting from each split can be determined. At the conclusion of all splits, an analysis of variance table is provided for differences in means of all resulting unsplit subgroups. These subgroups are mutually exclusive, every observation or case being a member of exactly one subgroup.

The results of the AID analysis for the "APL interest index" example are reported in one figure and two tables derived from information provided in the printout. Figure 1 presents a tree of the splits made in successive parent groups and their children. Each group is represented by a box in which are contained a verbal descriptor, the size (N), and the mean of the group. Boxes representing children are connected to their parent's box by straight lines. Six mutually exclusive groups resulting from the successive splits are indicated by asterisks (*). The order in which the splits took place is indicated by Roman numerals I through V. Table 12 details each split, giving the description and size (N) of each parent group in columns 1 and 2. For each split, the variable identified by AID as explaining the largest proportion of the variance in the parent group is identified in column 3, and the best split of the categories that make up the group is given in column 4 along with the means of the two children. The proportion of the parent group variance explained by each best split is indicated in column 5, column 6 gives the proportion of the total variance explained by each split, and column 7 gives the cumulative proportion of the total variance explained. Table 13 lists the six resulting mutually exclusive groups from the highest to the lowest mean, along with a group description and the size (N), mean, and standard deviation of each group. Table 14 presents a one-way analysis of variance over the six final groups.

For the example presented, AID allows the researcher to place certain limitations on the splitting process. The following limitations, set as nonrestrictive as possible by the researcher, were used for the APL interest index analysis: (1) No group could be formed with an n of less than 10; (2) No more than a total of 45 groups could be formed as a result of splitting (only six are reported here); (3) A group must contain at least 1.0 percent of the total sum of squares in order to be a candidate for splitting; (4) The proportion of 0.5 percent of the total sum of squares must be explained in order for a given split to be made. The most limiting factor is this analysis was the minimum size of the subgroups. Thus, a larger sample would have permitted a greater number of splits. A total of fourteen splits occurred in this analysis, resulting in fifteen mutually exclusive subgroups.

AID also allows the researcher to identify predictor variables as free or monotonic. Monotonic predictors have the order of their coded values maintained during the partition scan, while free predictors are rearranged to find that partition which maximised the sum of squares between the two resulting groups. For this study, age, reading score, and APL Survey score were monotonic and had five categories, thus allowing only four possible splits to be considered: 1-2345, 12-345, 123-45, and 1234-5. Formal education, which had the same number of categories, however, but was allowed to split freely, had fifteen possible splits: 1-2345, 2-1345, 3-1245, 4-1235, 5-1234, 12-345, 13-245, 14-235, 15-234, 23-145, 24-135, 25-134, 34-125, 35-124, and 45-123.

It is the opinion of this author that Automatic Interaction Detector has wide application to adult education research. It is, first of all, conducive to exploratory research, allowing for introduction of large numbers of noncontinuous variables into the analysis. It is not intended for hypothesis testing studies, and statistical significance is not the criterion for identification of important predictor variables. AID is robust, that is, it does not impose restrictive assumptions, such as additivity and linearity, assumed by other multivariate analysis procedures. A major advantage of this procedure is the simplicity and straightforwardness of the process and its results. Subgroups identified by AID are clearly defined in descriptive terms, and their characteristics are the simple statistics, mean and standard deviation. It is easily understood by novice researchers, and the results are not difficult to explain to practitioners.

The AID program used for this study has been refined and elaborated by the Institute of Social Research at the University of Michigan, and is referred to as AID3[3]. Among the revisions are the addition of a "lookahead" feature and improvement of output. The adult education researcher would do well to investigate the application of this innovative analytic strategy.

---

[3] John A. Sonquist, Elizabeth Lauh Baker, and James N. Morgan, Searching for Structure, 2nd ed. (Ann Arbor: Institute for Social Research, University of Michigan, 1974).

TABLE 10

INDEPENDENT VARIABLES AND CATEGORIES USED IN AID ANALYSIS AND NUMBER OF RESPONDENTS IN EACH CATEGORY

Variable	N	Codes	Categories	n
Sex	204	1	Female	116
		2	Male	88
Ethnicity	204	1	Black	111
		2	White	51
		3	Hispanic	31
		4	Other	11
Country (of Birth)	204	1	Continental United States	152
		2	Other	52
Citizenship	204	1	U.S.A.	175
		2	Other	29
Community	204	1	Urban	124
		2	Suburban	49
		3	Rural	31
Age	204	1	16 - 19	34
		2	20 - 24	50
		3	25 - 29	32
		4	30 - 39	49
		5	40 - 74	39
Formal Education	203	1	Completed 0-8 grades	69
		2	Completed 9-11 grades	90
		3	Completed 12th grade	25
		4	Attended ungraded special education program	7
		5	Attended school in foreign country under different grading system	12
Job Status	204	1	Employed full- or part-time	90
		2	Homemaker	20
		3	Unemployed	84
		4	Other	10
Children	204	1	Own children under 18 living with respondent	91
		2	No children living with respondent	113
Marital Status	204	1	Married	70
		2	Not married	134
Head of Household	204	1	Self	86
		2	Parent	50
		3	Spouse	43
		4	Other	25
Homeowner	203	1	Homeowner	45
		2	Nonhomeowner	159
Reading Score (Maximum score=30)	201	1	0-10[a]	20
		2	11-15	43
		3	16-20	69
		4	21-25	51
		5	26-30	18
APL Survey Score (Maximum score=40)	201	1	0-15	40
		2	16-20	56
		3	21-25	57
		4	26-30	37
		5	31-40	11

[a] This category included the students who were not tested because of their limited reading ability.

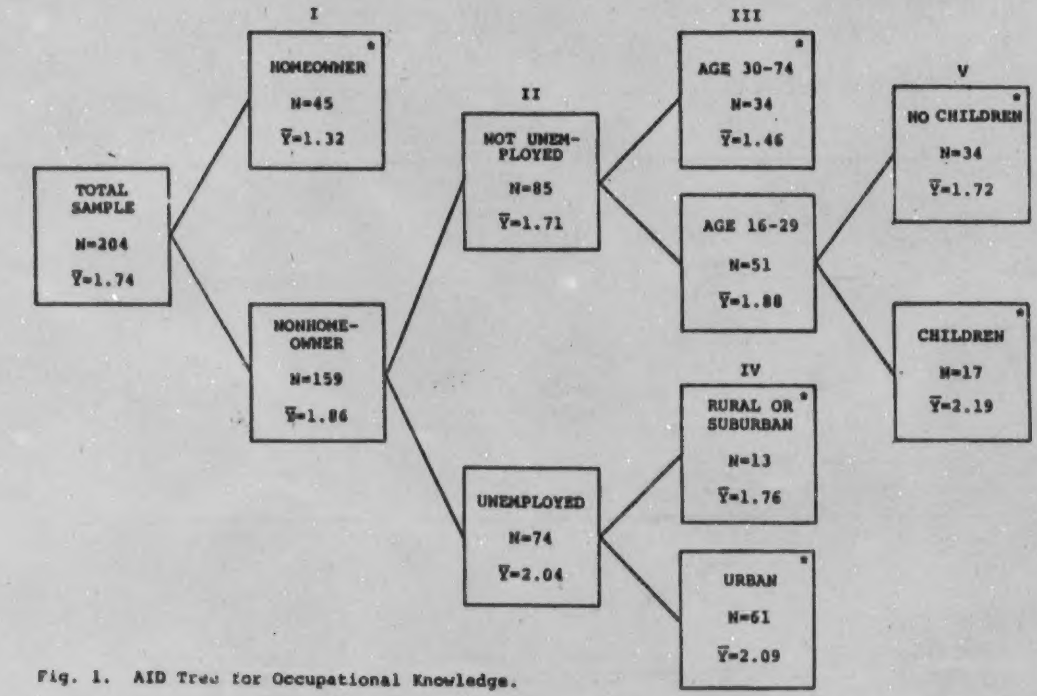

TOTAL SAMPLE
N=204
$\bar{Y}$=1.74
I
HOMEOWNER
N=45
$\bar{Y}$=1.32
NONHOME-OWNER
N=159
$\bar{Y}$=1.86
II
NOT UNEM-PLOYED
N=85
$\bar{Y}$=1.71
UNEMPLOYED
N=74
$\bar{Y}$=2.04
III
AGE 30-74
N=34
$\bar{Y}$=1.46
AGE 16-29
N=51
$\bar{Y}$=1.88
IV
RURAL OR SUBURBAN
N=13
$\bar{Y}$=1.76
URBAN
N=61
$\bar{Y}$=2.09
V
NO CHILDREN
N=34
$\bar{Y}$=1.72
CHILDREN
N=17
$\bar{Y}$=2.19
*

Fig. 1. AID Tree for Occupational Knowledge.

TABLE 12

AID SPLITS ON OCCUPATIONAL KNOWLEDGE LEARNING PRIORITY INDEX

Split	Parent Group (1)	N (2)	Variable (3)	Best Split (Means) (4)	BSS/TSS (5)	BSS/TOTSS (6)	Cumulative BSS/TOTSS (7)
I	Total sample	204	Homeowner	Homeowner (1.32)/ Nonhomeowner (1.86)	.093	.093	.093
II	Nonhomeowner	159	Job Status[a]	Not unemployed (1.71)/ Unemployed (2.04)	.052	.037	.130
III	Nonhomeowner, not employed	85	Age	Over 30 (1.46)/ Under 30 (1.88)	.075	.032	.162
IV	Unemployed nonhomeowner	74	Community	Suburban or rural (1.76)/ Urban (2.09)	.039	.010	.172
V	Young (16-29) nonhomeowner, not unemployed	51	Children	No children (1.72)/ With children (2.19)	.109	.023	.195

[a] "Unemployed" refers to respondents who were in the work force and out of work. "Not unemployed" includes not only those who were working, but homemakers, retirees, full time students, etc., as well.

TABLE 13

OCCUPATIONAL KNOWLEDGE LEARNING PRIORITY INDICES FOR SIX MUTUALLY EXCLUSIVE AID GROUPS IN RANK ORDER BY THEIR MEANS

Group	Description	N	Mean	Standard Deviation
1	Young parents (under 30) who were not unemployed and did not own their homes	17	2.19	.62
2	Unemployed urban nonhomeowners	61	2.09	.59
3	Unemployed rural or suburban nonhomeowners	13	1.76	.73
4	Young adults (under 30) who were no unemployed, had no children, and did not own their homes	34	1.72	.65
5	Older adults (over 30) who were not unemployed and did not own their homes	34	1.46	.78
6	Homeowners	45	1.32	.68
	Total	204	1.74	.74

TABLE 14

ANALYSIS OF VARIANCE FOR PRIORITY INDEX MEANS OF SIX OCCUPATIONAL KNOWLEDGE AID GROUPS

Source of Variance	df	SS	MS	F
Between groups	5	21.99	4.398	9.56*
Within groups	198	90.68	.460	
Total	203	112.67		

*$p < .001$.

Crisis in the Steel Industry: Effects of Mass Unemployment on Educational and Vocational Goals and Activities

by

David L. Boggs, The Ohio State University
and
Terry F. Buss, Youngstown State University

PURPOSE

A sudden decision made in September, 1977, by the Lyke's conglomerate led to the closing of a major Youngstown, Ohio steel facility and the termination of 4,200 workers. The behaviors of those affected can be viewed from many perspectives including: economics, political science, mental health, sociology, and education. This study was sponsored by the Ohio Department of Mental Health and conducted by the Center for Urban Studies, Youngstown State University and integrates several of these perspectives.

Specifically, it was hypothesized that in times of large scale economic stress:

1) increased enrollment in educational and training opportunities to prepare for other jobs does not occur;
2) learning about events through the mass media and interpersonal sources is heightened;
3) feelings of anomia, alienation, personal and political inefficacy are widespread; and
4) career directions and expectations are unchanged and retain established patterns.

LITERATURE REVIEW

The study was predicated on several assumptions. First, in a modern economy, massive job losses are a frequent occurrence whose effects on terminated employees, their families, and the community are multiple and significant (Wilcock and Franke, 1963; Foltman, 1968; Aiken, et al., 1968). Second, education and retraining are typically advanced as remedies to the problem. Third, adult educators need to understand the multiple effects of this event. Fourth, research on educational and vocational decision-making needs to consider the impact of stresses produced in the context of life circumstances. Finally, a combination of various sources of unemployment compensation, along with attempts to attract new industry, and temporary intense interest in the problem by various levels of government tend to cushion the shock of the event and postpone its inevitable consequences. This study began in July and August, 1978 when most sources of economic compensation for unemployed workers had run out.

1. Address requests for reprints to the authors at 160 Ramseyer Hall, 29 W. Woodruff Ave., The Ohio State University, Columbus, Ohio 43210

As reported by Aiken (1968), almost everyone seems to be in favor of retraining for displaced workers, but there is a great deal of disagreement over where the responsibility lies. Generally a distinction is made between retraining for employed workers, either for upgrading or to provide new skills when their jobs are to disappear, and retraining for those already unemployed. Industry has always had primary responsibility for the former and government (federal, state, and local) for the latter. An assumption is usually made that, in the hope of improving their chances of obtaining jobs, displaced workers will seek retraining or continue their education. Data, however, from studies of large scale layoffs in Detroit and Buffalo (Foltman, 1968 and Furman, 1969), indicate that this was not so. Retraining or continuing education was not considered a realistic alternative by the vast majority of employees displaced in those and other instances.

Since many consider work as the scaffolding that holds up adult life, it is reasonable to suppose that a massive disruption of work would cause those affected to reassess their career directions and expectations. Career development literature provides little guidance on the relationship between these phenomena. Heddesheimer (1976) stresses that no vocational decision is made in isolation, but rather, in context of life circumstances. Osipow (1973) lists four models of career development. The sociological model, which assumes that environmental factors influence career decisions, seems most pertinent to the steel worker situation. Thus far however, few data have been generated on career decisions made in an environment of massive unemployment. Hence our initial common sense assumption is unsupported by empirical data.

METHODOLOGY

Data Set. Personal interviews with 282 steelworkers from the Youngstown Sheet and Tube Company, Youngstown, Ohio were gathered from July 1 to August 30, 1978. Steelworkers in the study were stratified into employed and unemployed groups and then a computer generated simple random sample for both groups was drawn. Interviews were conducted in the steelworkers' homes by interviewers from the Center for Urban Studies, Youngstown State University. Interviews lasted about two and one-half hours. Interviewers were able to gather approximately 700 different pieces of information.

Independent Variables. There are many circumstances which mediate the individual response to mass unemployment. Four major mediating factors were measured as follows: Analysis first ascertained whether or not the worker had been terminated in employment at Youngstown Sheet and Tube. This information was obtained from employment records with verbal verification by the worker. If the worker was terminated in employment, then an attempt was made to discover when the worker was laid off by asking: "When was the last date you worked at your last regular job?" (month, year) At the time of the study, workers may have found other employment. Workers were asked: "Are you currently employed?" (1 = yes, 2 = no). Since workers might also choose early retirement as an option, workers were asked: "Since you last worked, have you received any retirement benefits?" (1 = yes, 2 = no). Demographic considerations might also influence the effect of unemployment. Four important variables were chosen for analysis: education, age, race and income.

The extent to which workers participate in social affairs and politics, communicate with others by means of the mass media or interpersonal communication, and experience economic deprivation may affect worker attitudes. Three indices were constructed to measure these conditions. An index of participation was constructed out of a variety of social and political participation indicators. Workers were asked: "Are you a member of any social service organization such as clubs or veterans groups?"; "Have you attended any rallies or meetings to discuss the steel crisis?"; "Have you written any letters to public officials about the steel crisis?"; "Have you talked with or phoned any public officials about the steel crisis during the last year?"; "Have you attended any sporting events within the last month?"; "Have you gone out to the movies in the last month?"; "Have you gone to any local concerts, plays, museums in the last month?" (all items were scored 1=yes, 2=no).

A communication index was constructed from questions on the mass media and interpersonal communication: "How many hours of television would you say that you watch on an average day?" "About how many times a week do you watch local television news?" "Can you tell me about how many television shows about the steel crisis you have seen in the last six months?" "About how many hours a week do you spend reading the newspaper?" "Can you tell me how many newspaper articles you have read about the steel crisis during the last week?" "About how many times a week would you say you discuss the steel crisis with friends, neighbors, relatives or fellow workers?" and "How often do you attend union meetings?" (always or usually = 1; sometimes or never = 0).

An economic deprivation index was constructed from the following questions: "Are you having any difficulty paying bills?" "Do you presently have health insurance of any kind?" "Have you received any financial help from relatives or friends since being laid off?" From someone other than family or friends?" "Do you plan to apply for food stamps in the future?" and "Public assistance from the Welfare Department?" (all items were scored 1=yes, 2=no).

Dependent Variables. In order to measure the relationship between unemployment and educational plans respondents were asked: "Are you enrolled in a school or a class of any kind?" "Do you plan to enroll in any kind of school or class?" and "If you had the opportunity, what educational degree or certificate would you like to get in the next ten years?"

The impact of unemployment was also measured by four well known attitudinal scales. These included Olsens (1969) political alienation scale, Scroles' (1956) anomia scale, Aberbach's (1969) personal efficacy scale and Aberbach's political efficacy scale. Respondents were also asked several questions concerning their efforts and intentions concerning future employment.

FINDINGS

Education and Retraining. It was hypothesized that workers experiencing mass unemployment are unlikely to seek further education or retraining. Analysis attempted to test this by asking respondents about their educational activities and plans. Only 9.2 percent of the unemployed were enrolled in school or a class at the time of interview, while another 34.9 percent said they planned to do so. Employed workers' enrollment or intent to enroll was

7.9 and 19.0 percent respectively. Projecting ten years into the future 27.2 percent of unemployed workers had no educational plans, 3.3 percent intended to finish high school, 27.2 percent wanted to obtain some occupational certificate or license, and the rest specified some form of higher education in their ten year plans. Level of educational attainment for unemployed was: 34 percent had not finished high school, 40.2 had high school diplomas, and the rest had some post-secondary education. Employed respondents 10 year educational goals were very similar to their unemployed counterparts as was their level of educational attainment: 31.3 percent had not finished high school, 35.2 percent had high school diplomas, and the rest had some college experience.

Based on these data, it did not appear that steelworkers highly prized education or retraining as a desirable response to the unemployment crisis. In order to provide reasons for choosing or not choosing education, education variables were crosstabulated with selected demographics, four attitudinal scales, scales of participation in social and political activities, informedness about current affairs, and economic deprivation. Results of this analysis are given in Table I.

Age was related to several measures of behavior and attitude. Older respondents were of course, more likely to have retired since they were laid off and were less well informed about events and had completed less education. On the other hand older respondents reported less economic deprivation. Younger respondents were less alienated, participated more in social activities, and were more inclined to have plans to relocate.

Level of education had predictable effects. Less education was associated with older retired workers who expressed more alienation and less personal efficacy. Less schooling was also characteristic of those with less participation in social activities and a lower level of informedness.

Income and race were not strongly related to many variables. Those who had been terminated tended to have had less income in their last full year of employment. Non-whites expressed more feelings of personal efficacy.

Being enrolled in school was associated with those who had completed more grades in school and were younger. However enrollment was also associated with more alienation and anomia.

Planning to enroll was associated with those who had completed more years in school and were younger and were planning to relocate. Intent to enroll was also related to more feelings of anomia and alienation.

Having 10 year educational goals was characteristic of younger respondents, non-whites, and with having already completed more grades in school. Not having 10 year educational goals was characteristic of respondents with more feelings of anomia and alienation. Having plans to relocate, being better informed, and participating in social activities also characterized those with 10 year educational goals.

Informedness about Events. Evidence supported the hypothesis that respondents' would be well informed about the steel crisis through the media.

Table 1

Correlations of Selected Variables for Employed and Unemployed Steelworkers

	Enrolled in School	Plan to Enroll	10-year Educational Plans	Age	Race	Income	Level of Schooling
Employed	-.03[a]	-.17*[b]	.03	.01	.01	-.10*	-.02
Retired	-.10*	-.04	.09	-.40*	.07	.05	.18*
Terminated	.02	.10*	.01	.04	.02	.13*	.03
Income	.03	-.01	.09	-.05	-.04	1.00*	-.04
Plan to Move	.09	.16*	-.11*	.28*	-.08	-.00	-.04
Age	.25*	.32*	-.26*	1.00*	-.04	-.05	-.34*
Race	-.03	-.02	.10*	-.04	1.00*	-.04	-.12*
Personal Efficacy	.04	-.02	.04	.06	-.24*	-.02	.17*
Anomia	-.11*	-.12*	.16*	-.05	-.03	.01	.15*
Participation in Social Activities	-.31*	-.10	.24*	-.18*	.00	.04	.31*
Participation in Political Activities	.08	-.18*	.05	.01	.01	.00	-.03
Alienation	-.18*	-.20*	.27*	-.19*	.04	.04	.31*
Level of Schooling	-.22*	-.24*	.18*	-.34*	-.12*	-.04	1.00*
Level of Informedness	.12	.04	.22*	.15*	.02	.01	.15*
Economic Deprivation	.13	.28*	.01	.27*	-.01	.05	.06

[a] Coefficients are Pearson's r's

[b] Significance at $p < .05$ or better indicated by *

Steelworker exposure to the mass media was extensive during the height of the steel crisis in Youngstown. Only about 21.9 percent of the steelworkers reported watching one hour or less of television; while 60.2 percent watched between two and four hours daily. Of those who watched television, approximately 77.9 percent watched local television news at least on a daily basis throughout an average week. In addition, some 70.8 percent of the steelworkers viewed at least two special television programs about the steel crisis within the last month.

Newspapers were also widely read by steelworkers during the steel crisis. Nearly 52.1 percent of the workers spent at least one hour per day on the average reading the local Youngstown Vindicator. Of those reading the Vindicator, 76.2 percent stated that they had read five or more stories on the steel crisis during the last week.

Engaging in political communications was dramatically different for autoworkers* who were in no way involved in the steel crisis. Autoworkers watched television about as much as steelworkers on a daily basis (61.2 percent). But autoworkers were much less likely to watch local television news on a daily basis (54.7 percent) and were less likely to have seen at least two television shows about the steel crisis (47.8 percent).

Newspaper reading followed a similar pattern. Only 41.3 percent of the autoworkers spent at least one hour per day reading their local newspaper. For those who did read their local newspaper, only 11.2 percent reported reading five or more stories on the steel crisis during the last week.

Unemployment and Stress. On the premise that unemployment is stressful it was hypothesized that respondents feeling of anomia, alienation, and personal and political inefficacy would be widespread. Evidence supporting the hypothesis is available when unemployed and employed respondents were compared on measures of alienation and anomia. With the exception of one statement, 55 percent of respondents expressed anomic and alienated feelings on every measure. Unemployed respondents predictably surpassed their counterparts in feelings of anomia and alienation.

Concerning personal efficacy evidence of stress was high for all respondents, with those unemployed expressing loss of personal control over 65 percent of the time. Both groups also expressed a high degree of political inefficacy, but with little difference between them.

Career Directions and Expectations. Unemployed respondents made up 35.7 percent of the sample. Another 15.5 percent of employed workers had been terminated from the steel mill but were able to secure other full or part-time employment.

It was hypothesized that respondents career directions and expectations would continue to be focused on steelmaking. Analysis attempted to test this by asking respondents about their career options and plans. The hypothesis was predicated on the premise that this occupation is a way of life in this geographical vicinity and for many, a family tradition. Over 40 percent of respondents fathers were in steel and it was the first full-time occupation of nearly 31 percent of respondents. When asked what they plan to do in response to the steel crisis only 21.9 percent of the unemployed said "seek another or better job." Whereas 38 percent replied they planned to do nothing. About 23.9 percent of unemployed and about 18 percent of employed workers said they plan to move. The younger the worker the more likely he was to intend to move. At least 70 percent of those looking for another job were looking outside the steel industry. Evidence to support or reject this hypothesis is inconclusive.

---

*A random sample of autoworkers from Youngstown was used as a control group on the study. Analysis of data from this group has not yet been completed.

CONCLUSIONS

Education or retraining is viewed as a reasonable response to mass unemployment by a limited segment of those affected. Steelworkers in this study who were engaged in education or had educational plans were younger and better educated than their fellow workers. They also seemed to experience more feelings of anomia and alienation. Perhaps education is viewed as a means of reasserting ones place in society, offering hope in the face of an otherwise bleak future. While anomia and alienation from a mental health perspective can lead to dysfunctional behaviors, such feelings may also be a catalyst for opting to engage in productive experiences. Stress was evident for all respondents. Education may be one means of alleviating it for some workers. Willingness and even intent to relocate also seemed to characterize those who viewed education as a means for improving their circumstances.

As the prospects for future employment in the steel industry diminish and temporary economic assistance declines career decisions and expectations will undoubtedly be affected. The second wave of interviews, scheduled to occur after an interval of 18 months will provide another measure of career decision-making.

Aberbach, J.D. "Alienation and Political Behavior" American Political Science Review 62(1969) 86-99.

Aiken, Michael. Economic Failure, Alienation & Extremism. Ann Arbor: University of Michigan Press, 1968.

Fottman, Felician. White-and Blue-Collar in a Plant Shutdown. Ithaca, N.Y. Cornell University Press, 1968.

Furman, Louis. Job Development for the Hard to Employ. Ann Arbor: University of Michigan Press, 1969.

Heddesheimer, Janet. "Multiple Motivations for Mid-Career Changes." The Personnel and Guidance Journal. 55, 3, November, 1976.

Olsen, M. "Two Categories of Political Aleination" Social Forces 47(1969) 288-299.

Osipon, S.H. Theories of Career Development. Prentice Hall, Inc. Englewood Cliffs, New Jersey, 1973.

Srole, L. "Social Integration and Certain Corollaries" American Sociological Review 21(1956) 706-716.

Wilcox, Richard L. and Franke, Walter. Unwanted Workers. London: Free Press, 1963.

Critical Consciousness and Social Structure in Rural Zaire

D. Merrill Ewert[1]
University of Maryland

I. PURPOSE

Brazilian educator, Paulo Freire, has proposed an alternative education that claims not only to change attitudes, impart knowledge, and modify behavior, but also to challenge unjust social structures. Arguing that schools and traditional nonformal education systems are manipulated by the elite to oppress the powerless, Freire's revolutionary strategy is designed to generate structural change. Although trapped in a "culture of silence," the oppressed classes are able to recognize the structural contradictions in their lives as products of historical conditions rather than their own inferiority. This realization, Freire says, results in heightened consciousness and the will to struggle against the oppressors for the creation of a just society (1970).

The assumptions, methodology, and ultimate purpose of this approach has polarized adult educators. Criticized by some, praised by others (Grabowski, 1970), sometimes emulated, and frequently misunderstood, there is little agreement regarding the extent to which the Freire paradigm is applicable beyond its original Latin American context.

Given the premise of an oppressor/oppressed dichotomy, the generalizability of the Freire perspective is particularly problematic for African society where the existence of social class is under debate (cf. Marenin, 1976). Consequently, the purpose of this study is to examine people's views of social structure in a rural Zairian community as a preliminary step toward understanding the implications of the Freire paradigm for African society.

II. REVIEW OF THE LITERATURE

Planners have divergent views of the relationship between education and social structure which in turn are translated into contrasting educational strategies. The extension/diffusion literature, for example, defines education as the process of introducing new ideas into traditional social systems in order to increase production, raise the level of living, and improve social organization (Rogers, 1969: 8). Ryckmans writes that rural development means trying to "change, push, lead, bring forward...the big conservative agricultural population" (1971: 14). Defining the problem as modernization and conceptualizing education as diffusion ignores the existence of exploitation and oppression and overlooks structural barriers to development.

The lifelong learning literature addresses the issue of poverty but unlike proponents of diffusion theory, views societal problems in their totality with particular emphasis on privilege and injustice (cf. Faure et al. 1972: 22). Faure et al. posit "scientific humanism" as the antidote to traditional attitudes and a rapidly changing environment. The concern with exploitive structures, however, never quite makes the transition between social theory and educational practice. As Ohliger says, Faure et al. raise beautiful dialectical questions only to fall back under the spell of "science" and "technology" (1974: 47-50). The structural contradictions defined as the problem are ignored at the teaching/learning stage of the educational process.

---

[1] Department of Agricultural and Extension Education, 1109 Symons Hall, University of Maryland, College Park, Maryland 20742.

Proponents of community development describe their educational task as encouraging, influencing, or helping people become actively involved in meeting their own needs (Batten and Batten, 1965: vii). Alienated, afraid and sometimes suffering deprivation, people lose self-confidence and become inarticulate. This, in turn frequently leads to isolation and destroys community (Biddle and Biddle, 1965). The community development solution, on the other hand, presupposes the rediscovery of local initiative through popular participation in community problem-solving. Where problems have structural origins, political action may be appropriate but outside the educational context. Based on a consensus view of society, the Biddle and Batten solution to injustice is to assume that those who exercise power will submit to community decisions for the sake of some common purpose. This ignores the fact that exploitive social relations benefit some individuals who may not willingly relinquish their advantages.

Unlike diffusion theorists who fragment society into modern and traditional sectors, Freire preserves the holistic character of social systems. In contrast to proponents of lifelong learning who define structural problems for which they apparently have no educational solutions, Freire's pedagogy is consistent with his analysis. While community developers recognize structural contradictions and then retreat while others man the barricades (cf. Biddle and Biddle, 1968: 48), Freire insists on the unity of reflection and action. The potential of an educational strategy designed to generate structural change has aroused some uncritical enthusiasm among those concerned with exploitation and oppression. The question, however, is sociological as well as ideological so any analysis of the Freire paradigm that ignores the socio-cultural context overlooks an important dimension of the issue.

III. METHODOLOGY

This study of social structure and the implications for an educational strategy based on Freire's pedagogy was part of a rural development program in the Bandundu Region of Zaire between 1974 and 1976.[1] The Kwese who inhabit the seven villages participating in the program are matrilinial, tracing social status, inheritance, and succession through the female line. Land is controlled by kinship groups although individual title is possible with compliance to specific legal statutes and traditional tenure customs. While the economic base is shifting cultivation some men in the community have been employed by palm oil companies as fruit cutters, oil press operators, and road maintainers. The principle crops are cassava, mais, and groundnuts. Although land is plentiful, the virgin forest preferred for fields is rapidly disappearing. Economically, and culturally, the seven village area resembles other agricultural communities in southern Bandundu.[2]

This analysis is based on participant observation in the community as well as a survey of 100 randomly selected heads of households in the project area.

The survey instrument elicited information regarding agriculture, nutrition, division of labor, and attitudes toward education and social structure. The study has all the limitations and advantages of action research.

IV. RESULTS

To assess local priorities, respondents were asked to indicate how they would spend an unexpectedly received 50 Zaires if given the options of buying a radio, a cow, clothes, or food, or paying their children's school fees. Each item was paired with every other and people asked to choose one of two in the dyad. Fifty-nine percent selected "pay school fees" over the alternative in every instance where that was one of the options. Another 33% chose "school fees" in every dyad except one. This suggests that education is a high priority, hardly surprising given the qualitative impact of educational achievement. The subsistence cultivators in the sample had a mean income of three to four Zaires per month in contrast to the 120 Zaire salaries of university educated secondary school teachers in the region. This disparity between the two social groups is translated into very contrasting levels of living.

An analysis of educational opportunities found that 87% of the sample believed that everyone in the region has equal access to education. Community discussions, on the other hand, frequently focused on the difficulties of paying tuition and other "unofficial" but necessary fees for entering educational institutions or making progress through the system. People also complained about having to provide teachers with firewood, food, and other materials upon demand. To synthesize, educational problems were conceptualized in terms of the following contradictions: 1) education is the key to social mobility but money for school fees is difficult to find; 2) people are forced to contribute unpaid labor and materials to the school but their children are expelled if unable to pay tuition.

The apparent contradiction between perceptions of educational opportunity and economic barriers to education may be explained in that while everyone has the possibility of schooling, some have a higher probability of being able to attend. Statistics reveal that while 78% of the primary school age children in Bandundu attended classes during this study, only 10% of the secondary school age children were enrolled (Ewert, 1977: 203). The problem, one man said is: "We village people have to pay the same amount to send our children to school as the people in the city who have jobs. We don't have any way to make money in the village."

To examine another aspect of perceptions of structure, respondents were asked to compare their lives with those of others in the region. Sixty-two percent indicated that nobody had a better life, while the rest pointed to merchants, rich people, teachers, and those with jobs as being in better positions. There was not, however, a consistent pattern of viewing particular categories as advantaged over others.

Economic concerns were also expressed in discussions of the agricultural structure. The price of farmers' produce for example, is strictly controlled by the government with substantial penalities for noncompliance. Merchants who purchase produce at these artifically low prices in the village, however, resell it in the cities for whatever people are willing to pay. The government does not interfere, so many merchants amass great wealth very rapidly. In the absence of economic incentives to produce a surplus, the Ministry of Agriculture enforces strict production quotas to ensure the availability of food for urban areas. In the words of one farmer: "The merchants come here and buy our things cheaply and then go to Kinshasa and get rich from what we sold them at a little price. We people who did the work get practically nothing while they get rich."

Discussions of community problems generated the following contradictions: 1) government policy allows consumer goods to rise unchecked but controls the price of agricultural commodities; 2) although there is little incentive to exceed subsistence requirements, government regulations enforce crop production quotas; 3) while farmers make little money for their efforts, merchants quickly become wealthy because of their ability to market agricultural produce in the cities.

Forty-one percent identified specific barriers that kept them from moving ahead, including: God, sickness, family members, enemies, "my heart," the village chief, and Satan. Only one man noted the government as a barrier. On the other hand, a participant in a problem-solving group announced: "The people who know how to write got independence in 1960. The rest of us got...". (He stamped his foot on the ground several times.)

V. DISCUSSION

Consciousness refers to the accuracy of one's perceptions regarding one's position in the social structure. When the oppressed remain unaware of the causes of their condition, Freire argues, they fatalistically accept exploitation rather than struggling for freedom and self-affirmation (1976: 51). The data suggest that there are "cracks in the structure" in this rural Zairian community. On the one hand, economic problems are conceptualized within the framework of structural contradictions. On the other hand, the data show limited perceptions of relative deprivation and structural barriers to development. Although one hears self-descriptions such as "we poor people," "we people of the village" and "we people without anything," hostility is directed against the state which controls schools, establishes prices, and makes laws rather than a particular social category.

Class consciousness assumes vertical differentiation but the evidence suggests that the most salient cleavages in this community are horizontal. Mulele, a Marxist trained revolutionary, attempted to mobilize the region by focusing on relative deprivation. Although framing his call to arms within the context of a class struggle (cf. Fox et al. 1965), his 1964 rebellion ultimately failed because "the spread of revolutionary violence was limited in proportion to its quotient of ethnicity and therefore to the territorial domain of specific tribes" (Lemarchand, 1970: 477). This Kwese community, in fact, perceived the struggle as a Pende war, armed themselves against the rebels, and aided government troups.

Another factor limiting class consciousness is belief in the possibility of social mobility. Although children of elites have greater educational opportunity, there are also possibilities for non-elites. Several children in the community were pursuing higher education during this study, and their families were expecting substantial economic benefits following graduation. Given limited resources, parents frequently send their brightest children to school with the expectation that they will receive reciprocal assistance after their children are employed.

A third countervailing force is the reciprocal character of social relations in African society. Kinship bonds, the most significant relationship, ensure that the elite maintain close effective ties to individuals at quite disparate social levels, which in turn weakens elite cohesion (Miller, 1974: 531). These bonds can be seen in the flow of money, letters, food, and other materials between rural communities such as this one and urban centers. A store manager in a nearby city sent money to his rural relatives during this study in order to establish a cattle herd. An urban merchant organized a store and market in conjunction with his father who served as local manager. Although sociologically "elites," the resources of the manager and the merchant were integrated into the rural familial system. They, in turn, were perceived as sources of aid in times of family crises rather than as oppressors.

Another kind of reciprocity retarding class formation is the patron-client relationship that permeates African Society: "The man who becomes important and 'big' is expected not to forsake his kinsmen, villagers, friends and to render them help..." (Choda, 1973: 413). Although frequently political, these relationships stress the importance of informal and personal authority relations between individuals of unequal status, power, or wealth. Many merchants in Bandundu began their commercial operations through relationships with established merchants who provided their financial backing. With rampant inflation, it is virtually impossible for anyone without substantial resources to purchase a truck and several small stores for the kind of commerce practiced in the region. Someone who aspires to better things and recognizes that the resources and influence of a powerful patron could make that possible, is not the most likely candidate for revolutionary action.

VI. CONCLUSIONS

Unlike diffusion theorists, apologists for lifelong learning, or proponents of community development, Freire offers an educational strategy for confronting exploitive social structures. The data suggest, however, that while people in this community are cognizant of the contradictions that reflect an oppressive structure, there are other countervailing forces that limit class consciousness, a presupposition of the Freire paradigm. Economic problems are blamed on "the state" which controls the structures of power rather than upon a class of elites. Members of the community, meanwhile, are linked to the elite by reciprocal ties of ethnicity, kinship, and patronage. These bonds, together with the possibility of mobility, limit the impact of vertical social cleavages.

Although much more research is needed, this preliminary study suggests that an educational model which assumes an oppressor/oppressed dichotomy may be of limited utility where other social categories and relationships are more salient than social class. Based on these findings, to argue that subsistence cultivators in rural Zaire will unite as a class to struggle against their oppressors is to sacrifice sociology to ideology. On the other hand, more conceptual energy must be directed toward developing educational strategies for restructuring exploitive social relations.

FOOTNOTES

[1] The author was employed by the Mennonite Central Committee as a rural development specialist at the time of the study.

[2] To protect the confidentiality of the relationship with the community, the names of the villages that were studied are not included in this report.

REFERENCES

Batten, T. R., with the collaboration of Madge Batten. The Human Factor in Community Work. London: Oxford Press, 1965.

Biddle, William W., with the collaboration of Loureide J. Biddle. The Community Development Process. New York: Holt, Rinehart and Winston, 1965.

Biddle, William W., with the collaboration of Loureide J. Biddle. Encouraging Community Development. New York: Holt, Rinehart and Winston, 1968.

Choda, Szymon. "Social Stratification in Sub-Saharan Africa." Canadian Journal of African Studies, VII (1973), 401-417.

Ewert, D. Merrill. Critical Consciousness and Social Structure in Rural Zaire. Unpublished Dissertation. University of Wisconsin, Madison, Wisconsin, 1977.

Faure, Edgar et al. Learning to Be. Paris: UNESCO.

Fox, Renee C., Willy De Craemer, and Jean-Marie Ribeaucourt. "The Second Independence: A Case Study of the Kwilu Rebellion in the Congo." Comparative Studies in Society and History. VIII(1965), 78-109.

Freire, Paulo. Pedagogy of the Oppressed. New York: Herder and Herder, 1970.

Freire, Paulo. "Literacy and the Possible Dream." Prospects: Quarterly Review of Education. VI(1976P, 68-71.

Grabowski, Stanly M. (ed.). Paulo Freire: A Revolutionary Dilemma for the Adult Educator. Occasional Papers No. 32. Syracuse University. Syracuse: ERIC Clearinghouse on Adult Education, 1972.

Jeffries, Richard. "Political Radicalism in Africa: 'The Second Independence'". African Affairs. 77(1978), 335-346.

Lemarchand, R. Rwanda and Burundi. New York: Praeger, 1970.

Marenin, Otwin. "Review Essay: Class Analysis in African Studies." Journal of African Studies. 3(1976), 133-138.

Miller, Robert A. "Elite Formation in Africa: Class, Culture, and Coherence." The Journal of Modern African Studies. 12(1974), 521-542.

Ohliger, John. "Is Lifelong Education a Guarantee of Permanent Inadequacy?" Convergence. VII(1974), 47-59.

Rogers, Everett M. Modernization Among Peasants. New York: Holt, Rinehart and Winston, 1969.

Ryckmans, Jean-Pierre. "Rural Animation--Its Methods and Potentials." Convergence. IV(1971), 14-20.

DETERMINANTS OF INTENTION TO PARTICIPATE IN CONTINUING PROFESSIONAL EDUCATION: AN EMPIRICAL INVESTIGATION[1]

Robert O. Ray, Ph.D., Assistant Professor;
Department of Continuing and Vocational Education;
University of Wisconsin-Madison;
Madison, Wisconsin[2]

Introduction

There is a rapidly growing body of literature on adults who participate in continuing education programs. Much of the research appears in a descriptive form which provides useful insight into participation patterns of the general adult population (1) (2), and professionals (2). However, only recently have studies begun to emerge which systematically examine the motivations for individuals to continue their individual development through organized instructional programs (3), (4), (5), (6), (7). These research oriented approaches to adult education have added much to the understanding of participant behavior.

Most of the available research literature reflects motivations of a general population to pursue continuing education, but not the motivations of career professionals. Recently, however, a conceptual framework was presented by Grotelueschen and Caulley (8) as a possible method for determining professional participation motives.

The model proposed for examining the motivations of professional clients was based upon research using attitudes as motives for behavior. It was the purpose of this study to empirically test the proposed model (8).

Literature Review

Grotelueschen and Caulley (8) have chosen the work of Fishbein (11) as their conceptual framework. It is therefore important to review Fishbein's work before proceeding. Fishbein has summarized his theory of human behavior in that ...

> 1) An individual holds many beliefs about any given object ..., 2) associated with each related object is a mediating evaluation response, i.e. an attitude. 3) These evaluative responses summate; 4) through the mediation process, the summated evaluative response is

---

[1] The author wishes to acknowledge the assistance of Ms. Jeanette L. Blodau and Mr. Robert J. Danforth for their assistance in collection and analysis of the data.

[2] Request for reprints should be addressed to the author at 208 Agriculture Hall, University of Wisconsin-Madison, Madison, WI 53706.

> associated with the attitude object, and thus 5) on future occasions the attitude object will elicit this summated evaluative response, i.e. this attitude (9:233)

Essentially, his theory suggests four interrelated concepts which determine participation: beliefs, attitudes, intentions, and behavior. A schematic representation of this model is represented in Figure 1.

Figure 1
About Here

Briefly explained, the information an individual has regarding any object helps to determine his belief in that object. Information serves as a conditioning agent for belief, and consequently the attitude an individual has toward that object. Attitudes thus formed, condition the intention of an individual to interact with that object. Intention predisposes one to a form of action which produces a consequence. The results of the action, or behavior, provides feedback to the individual regarding belief in that object, which further refines attitudes in a continuous process of evaluation.

In an attempt to explain participation of professionals in continuous education activity, Grotelueschen and Caulley (8) proposed the following algebraic expression which represents their interpretation of Fishbein's theory:

$$B \sim I = w_1 (A) + w_2 (SSN) + w_3 (SPN)$$

Where B = the behavior,
I = the intention to perform behavior B,
A = the attitude toward performing behavior B,
SSN = the subjective social norm,
SPN = the subjective personal norm, and
w_1, w_2, w_3 = empirically determined weights (8:33).

The algebraic definition of these elements can be found elsewhere (8). Space limitations require their omission in this paper.

Methodology

Subjects. The sample population for the study was comprised of professional participants in a three day midwestern regional symposium in March of 1978 (N = 378). The professionals examined were recreation specialists who work with special populations of handicapped and disabled individuals. More commonly these individuals are referenced as recreation therapists.

Subjects were invited to respond to a written questionnaire designed to assess the effectiveness of the symposium. Questions designed to meet the purpose of this project were imbedded in the questionnaire. Addresses of individuals were requested to determine interest in receiving summary results of the study. Ninety-five percent of the forms completed at the site contained the names and addresses of the respondents. However, relatively few forms were returned during the conference, thus a mailing list was used to sample the population further.

Subjects who had responded and signed their names were deleted from the mailing list, and the remainder were solicited using a cover letter and questionnaire. A postcard was mailed to nonrespondents after two weeks delay, and a third reminder was mailed including a personal note and new questionnaire after two additional weeks. The total response was 60.3 percent (N = 228) of the total population. Three of those returned proved unuseable in the present study and were therefore deleted. A total of 225 subjects were used in the present study.

Instrumentation. To test the proposed model, the same questions, phrased differently, and scorings of responses proposed by Grotelueschen and Caulley were used (8:27-33). The questions were spaced and imbedded in the questionnaire as indicated previously in this paper. Response products for subjects were then calculated and entered for analysis.

Subjects were also presented a list of continuing education activities and were then asked to indicate the number of times they participated in each activity over the last two years. Finally, subjects were asked to indicate the number of times they intend to participate in each activity over the next year. These responses then were used to indicate behavior (B) and intention (I) within the model.

Analysis. Products for Attitudes (A), Subjective Social Norm (SSN), and Subjective Personal Norm (SPN) were calculated as suggested in the model and entered into the proposed algebraic expression (8:33). The number of continuing education activities which individuals indicated prior participation (B) and future intention to participate (I) were then determined.

Two multiple regression analyses were then performed using A, SSN, and SPN as predictors of B and then I. An additional regression analysis was performed using B as the predictor of I.

Results

The regression of A, SSN, and SPN on B provided the following regression equation and variable weights:

$B = 14.9 - .0391\,A + .543\,SSN - .0921\,SPN$. The variance adjusted for degrees of freedom explained by the equation was: $R^2 = .014$. Further variance explanation can be found in Table 1.

Table 1
About Here

The regression of A, SSN, and SPN on I provided the following equation and weightings: $I = 3.36 - .0595\,A + .432\,SSN + .644\,SPN$. The variance adjusted for degrees of freedom explained by the variables was $R^2 = .10$. Table 2 contains the detailed variance analysis for this regression.

Table 2
About Here

The regression of B on I provided the following equation and weighting: I = 5.84 + .760 B, and the variance adjusted for degrees of freedom was $R^2 = .37$. Further variance explanation can be found in Table 3.

Table 3
About Here

Discussion

The results of this study indicated the Grotelueschen and Caulley model (8) was not useful in explaining the continuing education behavior or intent to behave by a selected group of professionals. Rather, prediction of intention to behave was much more strongly influenced by previous continuing education activity levels, i.e. previous behavior.

Perhaps this finding is not too surprising when one examines the subject population. Individuals participating in the study were at the time participating in a continuing education activity. Therefore, the subjects sampled may be predisposed to continuing education which may not be representative of the entire professional population.

Further explanation may come from the youthful stages of the profession called therapeutic recreation. Only recently have these individuals begun to gain acceptance as a bona fide profession by the federal civil service system (13). Such recognition may be an incentive to achieve further recognition by the demonstration of knowledgeable skills in the medical model of service which demands continual education.

It must be understood, however, that these individuals are not liscensed in practice and that no formal standards of knowledge or competency are enforced at this writing. Such a deficit of policy may not necessarily facilitate a need for further professional development.

The sample also reflects the recency of professionals from a formal education perspective. A large number of respondents (91.1%) had completed their formal academic training since 1970 (14). This factor may also be conducive to the need and desire for continued educational experiences. The preceding explanations are intuitive, not necessarily substantive conclusions of the affect of the sample upon the model.

In addition to the differences in R^2 for the three regression models, it is interesting to note the variance analyses in Tables 1, 2, and 3. In Table 1 the only variable in the regression equation to exhibit significance is the Subjective Social Norm. In other words, external values were stronger predictors of behavior than attitude or Subjective Personal Norms. Similar results can be found in Table 2, with the interesting addition of the Subjective Personal Norm.

One is left to wonder, why attitude played little or no role in the results. Perhaps the explanation of subject variance has served to partially explain the discrepencies. A further possibility of the disonnance may be the manner in which questions were presented to subjects. In professions, the need for continuing one's education may be understood. Therefore, the attitude as assessed in the study was a positive but foregone conclusion. The real motivation for behavior came from belief in external forces (i.e. SSN). Intention motivation (I) was additionally affected by internal norms (SPN) about previous behavior.

The appropriateness of this model might also be questioned based upon the type of questions asked of the specific population. That is, since professionals should have a positive attitude about continuing education, it is difficult to find variations in beliefs. In previous research, subjects were asked to respond to statements or situations not commonly encountered in daily conversation (9), (10), (11), (12), (15), or to the area of general adult education experiences (3), (4), (5), (6), (7). Perhaps these professionals should be asked other questions to determine their intentions to perform.

A further area of critical examination in the Grotelueschen and Caulley (8), might be the seemingly insufficient weight given to prior behavior. Previous behavior is an integral part of Fishbein's theory (9) (12) which does not seem to be adequately considered in predicting continuing education patterns of professionals.

Given all possible limitations of the study, the best possible predictor of participation was previous behavior ($R^2 = .372$). For parsimonious reasons it would appear logical to consider, in greater detail, previous experience as a predictor of future behavior.

Conclusions and Implications

Based upon the results of this study, and in consideration of its limitations, the following conclusions were made. The model proposed by Grotelueschen and Caulley (8) based upon the work of Fishbein (12) was not an accurate predictor of continuing professional education activity for the study population. Prior experience appears to be a much more reliable estimate of future behavior, and more parsimonious.

To advocate the total discredit of the proposed model (8) at this point would be premature, but certainly there areweaknesses which need to be reexamined. The concept would perhaps be more useful with questions reworded to better fit the need of a sample under study instead of the universe of all professionals. Further, the model should be revised to consider the weight of previous experience more appropriately. Certainly the work by Fishbein and others (9), (10), (11), (12) should not be discounted in the area of professional continuing education as the concepts appear to be, at least intuitively, plausible and useful in the planning and design of specific programs of professional development.

Figure 1

Schematic Presentation of Conceptual Framework Relating Beliefs, Attitudes, Intentions, and Behaviors with Respect to a Given Object. (12:15)

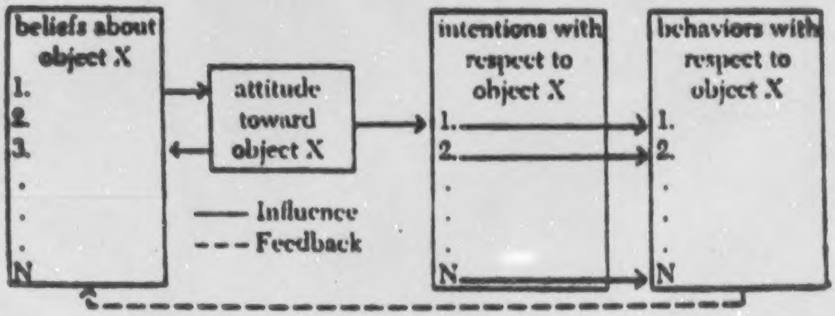

beliefs about object X
1.
2.
3.
N
attitude toward object X
intentions with respect to object X
1.
2.
N
behaviors with respect to object X
1.
2.
N
—— Influence
- - - Feedback

Table 1

Variance Analysis for Regression of A, SSN, and SPN on B

Source	DF	SS	MS	F
Regression	3	1410	470	1.99
A	1	32	32	1.36
SSN	1	1332	1332	5.64*
SPN	1	45	45	1.91
Residual	221	52224	236	

*p < .05.

Table 2

Variance Analysis for Regression of A, SSN, and SPN on I

Source	DF	SS	MS	F
Regression	3	3904	1301	9.29*
A	1	23	23	1.64
SSN	1	1673	1673	11.95*
SPN	1	2208	2208	15.77*
Residual	221	30872	140	

*p < .01.

Table 3

Variance Analysis for Regression of B on I

Source	DF	SS	MS	F
Regression	1	20087	20087	133.91*
Residual	223	33547	150	

*p < .001.

Selected References

1. Cross, K. P., J. R. Valley and Associates. *Planning Non-Traditional Programs*, Josey-Bass Publishers, San Francisco, 1974.
2. Johnstone, J. W. C. and R. J. Rivera. *Volunteers for Learning*. Aldine Publishing Company, 1965.
3. Boshier, Roger. "Factor Analysts at Large: A Critical Review of the Motivational Orientation Literature." *Adult Education*, XXVII (1976): 24-47.
4. Boshier, Roger. "Motivational Orientations Re-Visited: Life-Space Motives and the Education Participation Scale." *Adult Education*, XXVII (1977): 89-115.
5. Boshier, Roger. "Motivational Orientations of Adult Education Participants: A Factor Analytic Exploration of Houle's Typology." *Adult Education* XXI (1971): 3-26.
6. Burgess, Paul D. "Reasons for Adult Participation in Group Educational Activities." *Adult Education*, XXII (1971): 3-29.
7. Moorstain, Barry R. and John C. Smart. "Reasons for Participation in Adult Education Courses: A Multivariate Analysis of Group Differences." Adult Education, XXIV (1974): 85-98.
8. Grotelueschen, Arden D. and Darrel N. Caulley. "A Model for Studying Determinants of Intention to Participate in Continuing Professional Education." *Adult Education*, XXVIII (1977): 22-37.
9. Fishbein, M. "An Investigation of the Relationships Between Beliefs About an Object and the Attitude Toward that Object." *Human Relations*, 16 (1963): 233-40.
10. Fishbein, M. "A Behavior Approach to the Relations Between Beliefs About an Object and the Attitude Toward the Object." In *Readings in Attitude Theory and Measurement*: 389-400. Edited by M. Fishbein.
11. Fishbein, M., and F. S. Coombs. "Basis for Decision: An Attitudinal Analysis of Voting Behavior." *Journal of Applied Social Psychology*, 4 (1974): 95-124.
12. Fishbein, M. and I. Ajzen. *Belief, Attitude, Intention, and Behavior*. Reading, Massachusetts: Addison-Wesley, 1975.
13. "Professionalizing the Park and Recreation Movement," *Parks and Recreation*, 14 (February, 1978): 18.
14. Ray, Robert O. "An Assessment of Continuing Education Needs and Attitudes of Therapeutic Recreation Specialists." Department of Continuing and Vocational Education, University of Wisconsin-Madison, Graduate School Project #181452.
15. Schwartz, S. H., and Tessler, R. C. "A Test of a Model for Reducing Measured Attitude-Behavior Discrepancies." *Journal of Personality and Social Psychology*, 24 (1972): 225-36.

DEVELOPMENT AND VALIDATION OF A NORMATIVE PROCESS MODEL FOR DETERMINING PRIORITY OF NEED IN COMMUNITY ADULT EDUCATION

By Thomas J. Sork*

Introduction

Determining priorities involves deciding which entity, from a defined set of competing entities, will be attended to first, which attended to second, third, fourth, et cetera, until all entities are placed in an ordered sequence. This ordered sequence can then be used to preferentially allocate available resources. In the face of finite resources and proliferating human needs, the necessity of establishing priorities has become axiomatic. Yet little attention has been given in the literature to this special instance of decision making.

Purpose

The overall purpose of this research effort was to develop and gather evidence of validity for a normative process model which can be used by community adult education councils to establish priority among community-level needs. The following objectives were considered instrumental to the attainment of this purpose:

1. To determine, by reviewing available literature, the state of the art of setting priorities;
2. To formulate a conceptual framework which would serve as a foundation on which the model could be developed;
3. To develop a testable "working prototype" of the model based on explicit design specifications; and
4. To test the "working prototype" in a representative environment for purposes of gathering evidence regarding the model's validity (how well it did what it was designed to do).

Review of Literature

Space limitations herein prohibit providing a complete review of the literature related to determining priorities. A complete review of this research can be found in Sork (1978). This section will provide the reader only an overview of the literature and several generalizations drawn from it by the author.

Educational literature generally had not, until the early 1970's, drawn attention to the complex process of setting priorities. If this literature is reflective of contemporary concerns related to the process of education, then not many educators have been concerned with how or why priorities are established. Those involved in the quest to systemitize educational planning seem to have overlooked this process. Since 1970, however, the list of publications which at least contain some reference to this process has increased substantially. Most of these publications remain of a very fugitive nature.

---

*Department of Adult and Continuing Education, University of Nebraska, 61 Henzlik Hall, Lincoln, Nebraska 68588

Knowles (1970), Houle (1972) and Harrington (1969) each address the need to determine priorities (not always using those concepts) in the context of planning adult education programs. But their contribution is in the form of suggested bases for making priority decisions rather than recommended procedures to follow in making such decisions.

Sweigert (1969), Hoepfner et. al. (1972), Westinghouse Learning Corporation (1973), Hershkowitz and Shami (1974), Opinion Research Corporation (1972) and Stake (1972) have developed systems for determining priority of needs in public school settings. Generally, these systems include a prescribed set of criteria and require some rather gross judgments of importance of meeting needs and adequacy of attainment. Judgments using individual criteria are aggregated into a final priority value using a wide variety of rules, the bases for which are not fully explained.

Sudijarto and Sutjipto (1974) report on a conceptually complex and rigid system developed for use at the national level in Indochina. The bases for their rules and procedures are made explicit but the system does not appear amenable to changes prompted by different planning contexts.

Yetley (1975) developed a system for use by community developers. Like most of the systems designed for use in schools, his combines judgments of importance of meeting a need with current level of fulfillment to yield a "utility" score.

Kirschner Associates (1975) and Bowers and Associates (1976) each suggest using several bases for making priority decisions but do not provide a clear rationale for their selection. The former suggests ranking all needs under each criterion then summing the ranks to determine priority. The latter suggests rating all needs from 1-5 under each criterion, then summing the ratings to determine priority.

Several generalizations can be made as a result of reviewing this literature. They are: (1) It appears that only since 1970 has any serious attention been given to the process of establishing priorities among educational needs, goals, or objectives. (2) The most frequently suggested bases for priority decisions are importance and current level of attainment. (3) In those models which require combining two or more judgements to yield a final priority decision, there is no consistant technique suggested for making such combinations. (4) Few of the authors provide an explicit conceptual or theoretical foundation for their suggested approach. (5) Few of the approaches allow the decision-making group to choose among bases for decisions or to differentially weight these bases. (6) Most authors seem to acknowledge the need to establish priorities in a systematic, purposeful way. (7) With few exceptions, the statements to be placed in priority order were not well defined. (8) All of the approaches reviewed implicitly encourage the user to consider more than one factor when making priority decisions. (9) Most of the suggested bases for decisions can be placed in one of two general classifications - - those related to importance and those related to feasibility.

Analysis of the criteria proposed in the literature resulted in the development of eight criteria groups: five related to importance of meeting a need and three related to feasibility of meeting a need.

Criteria Related to Importance

Goal relatedness refers to the degree to which the needs relate or contribute to the established goals of the decision-making group. Urgency or immediacy refers to the degree to which the needs call for immediate action. Magnitude of discrepancy refers to the size of the gap between the current state of affairs and more valued future state of affairs. Number affected refers to the actual number of people on which the need impacts. Sequence refers to the degree to which there is a particular instrumental order in which needs should be addressed.

Criteria Related to Feasibility

Acceptability refers to the degree to which relevant publics will accept the change from a present state of affairs to a more valued future state of affairs.

Resources required refers to the amount of resources which must be devoted to each need if all needs are to be met. Probability of change refers to the degree to which the discrepancy between the present state of affairs and valued future state of affairs can be reduced giving existing levels of resources.

Methodology

The design of this study was based on a five-stage problem-solving strategy known as the "systems-model approach" (Banathy, 1973). Stage one, exploration, includes the tasks of identifying the problem to be solved, establishing a base of information/knowledge which can be used to propose alternative solutions, determining the importance and feasibility of solving the problem and presenting an initial specification of expected outcomes. The tasks of this stage were accomplished by (1) reviewing available literature which addressed the problem of determining priorities, (2) building a conceptual framework detailing the relationships between and among program planning, community, need, and priority, and (3) specifying, in a tentative way, what the solution should do.

Stage two, model building, includes the tasks of building models of possible solutions to the problem and exploring alternative means of developing solutions. Both of these tasks are iterative and result in "a comprehensive description or display of the product or solution and a plan by which to acquire the product or solution" (p. 79). In this research, stage two tasks resulted in the development of several alternative general approaches to determining priorities. Each alternative was evaluated using the specifications generated in stage one and a decision made about which alternative seemed most promising.

Stage three, design and development, involves elaborating on the conceptual model until enough detail is specified to allow production of a first working prototype. The working prototype in this case was the complete, detailed process model ready for validation.

Stage four, validation, involves testing the product or solution against specifications. Again, the tasks associated with validation are iterative and result in the eventual development of a product or solution which is ready to install in the system for which it was designed. This stage was partially completed. A pre-test of the prototype was conducted with an active community education council in Durham, North Carolina during July, 1977. Following some revisions in the prototype, it was tested with a second community education council in

Fort Collins, Colorado during November, 1977. In both cases the prototype was presented in workshop form using hypothetical needs assessment data as input into the decision-making process. The second test, results of which will be reported below, involved seven hours of participant interaction with the procedure inccluding time spent receiving evaluative feedback, both written and oral.

Research questions were generated using a matrix consisting of five dimensions of model validity (whether model was complete, adaptable, understandable, systematic, and acceptable) and three potential sources of evidence (analysis of output from the test, opinions of those involved in the test, and analysis of model design).

Stage five, implementation, involves installing the product or solution and assessing the degree to which it satisfies the need or solves the problem for which it was designed. It was not intended that stage five be completed in this study. Additional work must be done before the model can meet all criteria of validity.

Results

Results of this research project are of two types. First, there is the prototype process model, development of which formed a large part of this project. Second, there are results of the validation stage.

Description of the Model

The model is designed to assist community adult education councils in the task of determining priorities among community-level needs. Needs are defined as measureable discrepancies between current states of affairs and more valued future states of affairs. It is assumed that needs have been identified and that each need can be related to a goal dimension of the "good community" (i.e., safety, economic efficiency, health, home and family life, etc.).

Six criteria are proposed; four which can be classified as importance criteria and two which can be classified as feasibility criteria.

Contribution to goals, the first criterion of importance, is used to establish priority based on two factors: (1) how important the goal is to which the need relates and (2) how great a contribution the need makes to the definition of the goal. The two factors are combined to yield a final priority rating. Those needs which both relate to a goal of high importance and make a relatively large contribution to the definition of the goal are given high priority.

Magnitude of discrepancy is used to establish priority based on the relative size of the measurable discrepancy between the present state of affairs and valued future state of affairs. It is based on the assumption that needs involving a relatively large change (%) from present states of affairs to future states of affairs should be given higher priority than needs involving a relatively small change.

Immediacy is used to establish priority based on the degree to which each need requires immediate attention. It is based on the assumption that needs which will increase in intensity (the discrepancy will increase) if no action is taken should be given higher priority than needs which will decrease, or remain equal, in intensity if no action is taken. Immediacy is determined by analyzing time-series data for any trends which might indicate that the need is becoming more or less severe over time.

Instrumental value, the fourth criterion of importance, is used to establish priority based on the degree to which meeting one need will have a positive or negative effect on meeting other needs. It is based on the assumption that needs which, when met, will increase the likelihood that other needs will be met should be considered more important than needs which will decrease the likelihood that other needs will be met.

Availability of resources, the first criterion of feasibility, is used to establish priority based on the degree to which the resources necessary to meet the need are currently available. Needs for which all resources are available (or for which none are required) are given higher priority than needs for which required resources are not available.

Commitment to change is used to establish priority based on the degree to which "relevant publics" are committed to eliminating the discrepancy between the present state of affairs and valued future state of affairs. It is based on the assumption that needs involving change to which "relevant publics" have a positive commitment should be given higher priority than needs involving change to which "relevant publics" have no commitment.

Before the criteria can be used, the decision-making body must assign weights (multipliers) indicating the relative contribution each criterion should make to the final priority decision. A criterion assigned a multiplier of two would be considered twice as important to the final decision as a criterion assigned a multiple of one.

Judgments using individual criteria are made on a 0-10 scale, with 0 representing lowest priority and 10 representing highest priority. To determine a total priority value for each need, individual ratings are first multiplied by the criterion weights, then added together. An additive aggregation rule is used to make addition or deletion of criteria a simple process. The operational definition of each criterion was developed so that a higher priority rating is always "better" making an additive aggregation rule possible. A rating rather than a ranking system was used because the latter provides only ordinal-level measurement while the former provides a better idea of the magnitude of differences in priority between needs.

Results of Validation

Twenty-one research questions were formulated covering the five dimensions of model validity presented above.

Both quantitative and qualitative evidence was collected. In those cases where quantitative evidence was involved (e.g. frequency of responses on a Likert Scale, percentage of correct answers using magnitude of discrepancy criterion), criterion levels were established. For example, responses on the Likert Scale items were judged to be significant if 80% or more of the respondents indicated they "strongly agreed" or "agreed" with a statement (or "strongly disagreed" or "disagreed" if the statement was negative. Each research question was accepted or rejected based on the available evidence.

Following are the questions and the answers to each question organized by dimension of validity. (See Sork (1978) for a complete discussion of the methods used to collect and analyze evidence of model validity).

How complete is the model? (1) Does the model contain all elements which appear from the literature to be essential to producing a list of needs in priority order? Yes. (2) Did participants in the test produce the desired output by use of the model? Yes. (3) Did participants in the test judge each of the criteria included in the model as useful? Yes. (4) Did participants in the test identify criteria not included in the model which they felt should be used to establish priorities among community-level needs? Yes.

How adaptable is the model? (5) Does the model design allow for variation in the types of information inputs? Yes. (6) Does the model design allow for variation in value orientations of user groups? Yes. (7) Did the output of model testing indicate that the model was adapted? Yes. (8) Did participants in the test perceive that the information required to apply the criteria could be easily obtained in the test community? No. (9) Did participants in the test perceive that the information required to apply the criteria could be easily obtained in most communities? No. (10) Did participants in the test perceive the model as being adaptable for use in their community? Yes. (11) Did participants in the test perceive the model as being adaptable for use in most communities? No. (12) Did participants in the test perceive the model as being adaptable for use in agencies and organizations? No. How understandable is the model? (13) Did the output of the mdel test reflect an understanding of the model? No. (14) Did participants in the test perceive that they understood the model? Yes. How systematic is the model? (15) Does the model design prescribe a series of rationally - sequenced steps which result in the processing of specified input into desired output? Yes. (16) Did the output of model testing make it possible to identify each component of the decision-making process? Yes. (17) Did participants in the test perceive the model as an aid to communication of bases for priority decisions? No.
How acceptable is the model? (18) Did participants in the test perceive the model as not too complex for use in the test community? Yes. (19) Did participants in the test perceive the model as not too complex for use in most communities? No. (20) Did participants in the test perceive the time required to use the model as less than or equal to the amount of time they have to spend on making priority decisions? No. (21) When offered a choice between a group-generated strategy for determining priority and the model, would participants in the test choose to use the model? Yes.

Answers to questions 1, 2, 3, 5, 6, 7, 10, 14, 15, 16, 18, and 21 support the validity of the model while answers to the others suggest that the model did not do what it was designed to do.

Conclusions and Implications

Based on the evidence collected, it is clear that the model must undergo substantial refinement before it meets each criterion of validity. At the same time, the evidence suggests that the model holds promise as a useful addition to the tool chest of those involved in community adult education. Efforts at refinement should focus on (1) adding criteria to the model, (2) including an explicit step which allows the user group to choose those criteria it wishes to use, (3) simplifying,or offering alternatives to, the mathematical manipulations required to use the model, (4) improving the clarity of descriptive information and worksheets so that the essential elements of the model can be communicated in a parsimonious fashion, (5) reducing the amount of time required to apply the model.

References

Banathy, B.H. *Developing a Systems View of Education.* Belmont, CA: Lear Siegler - Fearon, 1973.

Bowers and Associates. *A Guide to Needs Assessment in Community Education.* Washington, D.C.: U. S. Government Printing Office, 1976.

Harrington, A. H. Economics of program management. In V. R. Griffin (ed.), *Program Planning in Adult Education.* Toronto: Ontario Institute for Studies in Education, 1969.

Herschkowitz, M., & Shami, M. A. A. Needs Assessment and goals validation for Maryland Public Education. In M. Herschkowitz (ed.) *Statewide Educational Needs Assessment: Results from Selected Model States.* Silver Spring, Maryland: Herschkowitz Associates, 1974.

Hoepfner, R., Bradley, P. A., Klein, S. P., & Atkin, M.C. *A Guidebook for CSE/Elementary School Evaluation Kit: Needs Assessment.* Boston: Allyn and Bacon, 1972.

Houle, C. O. *The Design of Education.* San Francisco: Jossey-Eass, 1972.

Kirschner Associates. *Toward More Effective Management: The Role of Objective Setting and Monitoring* (Training materials). Washington, D.C.: U. S. Government Printing Office, 1976.

Knowles, M. S. *The Modern Practice of Adult Education.* New York: Association Press, 1970.

Opinion Research Corporation. *Highlights of a Survey on Educational Goals Conducted for New Jersey Department of Education.* Trenton: New Jersey Department of Education, 1972.

Sork, T. J. A Normative process model for determining priority of need in Community Adult Education (Doctoral dissertation, The Florida State University, 1978). *Dissertation Abstracts International*, 1978, *39*, 1269A. (University Microfilms No. 7815484).

Stake, R. E. *Priorities Planning: Judging the Importance of Individual Objectives.* Los Angeles: Instructional Objectives Exchange, 1972.

Sudijarto & Sutjipto. *Setting priorities Among Educational Objectives.* Saigon: SEAMEO Regional Center for Educational Innovation and Technology, 1974.

Sweigert, R. L. *The First Step in Educational Problem Solving: A Systematic Assessment of Student Benefit.* Sacramento, Calif.: State Department of Education, 1969. (ERIC Document Reproduction Service No. ED 038 740)

Westinghouse Learning Corporation. *Administrative Manual: Educational Needs Assessment.* Iowa City, Iowa: Author, 1973.

Yetley, M. J. *Prioritizing Needs Through Surveys of Community Households and Community Leaders.* Knoxville: The University of Tennessee, 1975.

EFFECTIVENESS OF VOLUNTARY CITIZEN ADVOCACY ACTIVITIES

Dorothy O. Waugaman and Gene C. Whaples, University of Maryland*

While citizens are being urged more and more to be active participants in the process of formulating and modifying public policy, there have been no studies to determine how effective they will be in using various methods of communicating their desires to public policy decision makers. The purposes of this study are to provide some background answers and suggest some hypotheses about the effectiveness of citizen advocacy activities as perceived by state legislators. Specifically, the following questions were posed:

1. What voluntary citizen advocacy activities are perceived as being effective by members of state legislators?

2. Are there any relationships among personal characteristics of legislators and the types of activities they perceive as being effective?

It is hoped that the results of the study will be useful to the fields of adult education and community development, as well as political science. Hypotheses about the relative effectiveness of different kinds of citizen advocacy activities and the relationship of personal characteristics to perceived effectiveness have been generated. An instrument has been developed for use by other researchers in measuring perceptions of effectiveness in other public policy decision making bodies. The results will help in designing and evaluating learning experiences to teach voluntary advocacy to citizens, and should help motivate citizens to carry out those activities perceived by the legislators as effective.

Research reported by Ferguson and Kingdon seem to indicate that citizen input is important to legislators at both the state and federal levels (Ferguson, 1960; Kingdon, 1973). Other research reported in the last 27 years was conducted to determine the effectiveness of lobbying techniques (Berry, 1977; DeVries, 1960; Levitt and Feldbaum, 1975; Milbrath, 1963; Porter, 1974; Scott and Hunt, 1965; United States Senate, 1957; Zeigler and Baer, 1969). Respondents in the surveys included lawmakers and lobbyists at all three levels of government. Although most of the lists of techniques included constituent or citizen contacts, the contacts were seen as being in response to an organized campaign. No researcher tackled the question of the effectiveness of individual citizen tactics.

Generally, the studies demonstrated that the techniques considered most effective were those that relied on direct personal contact. Table 1 shows the similarities and differences in rankings among the eight reviewed studies (see next page).

The first step taken in the study was development of the research instrument, through a search of relevant literature, both descriptive and research.

---

* Extension and Continuing Education, Room 1109, Symons Hall, University of Maryland, College Park, Maryland 20742.

TABLE 1
COMPARISON OF RANKINGS OF LOBBYING TECHNIQUES FROM REVIEWED STUDIES

Technique[a]	Congressional Study[e]	Milbrath[f]	DeVries[f]	Zeigler, Baer[f] Mass.	N. C.	Ore.	Utah	Scott & Hunt[f]	Porter[f]	Levitt & Feldbaum[f]	Berry[e]
Office Visits[b]	1	1	1	2	3	2	2	3	1	3	1
Hearing Testimony	2	3	3	3	2	3	3	1	5	2	7
Research Results		2	2	1	1	1	1		4	1	4
Other Lobbyists[c]				6	7	5	7				
Other Legislators[c]									2		
Constituents[c]	4	4	7	5	5	6	5	5		4	3
Friends[c]		5	9	7	6	7	6	6		5	2
Telephone Calls								4		6	
Mail		6	10	7	10	9	8	2		6	
Telegrams		7	10					9			
Petitions								12			
PR Campaigns		8	4	4	4	4	4		8	6	6
Social Contacts[d]			11	10	8	8	8	13	9	11	
Money Contributions			5	10	12	10	11	8	11	13	10
Campaign Work								7	10	9	
Publicize Voting Records		9	10	7	11	10	12			10	8
Bribery		14	13	13	13	13	13			14	

[a] does not include all techniques ranked in all studies
[b] personal presentation of viewpoints
[c] should read "contacts by. . ."
[d] entertaining, giving a party, or contact at a social function
[e] ranked by lobbyists
[f] ranked by legislators

It was felt important to delineate between individual actions and organized group campaigns, between types of communication content (simple YES or NO vote reuqest, including reasons for position, and including research to support the position). Effectiveness was measured on a five point scale from "very effective" (5) through "not effective" (3) to "very ineffective" (1). An ineffective rating indicated the contact was counterproductive; not effective indicated the contact neither helped nor hurt the cause of the citizen; and the effective rating indicated the contact was worthy of consideration by the legislator.

A pilot test of the form was run with six Maryland state legislators as respondents (each completed the form twice), and the instrument was refined according to results of a correlation analysis. Another reliability test was performed by interviewing a random sample of five of the survey respondents four months after the surveys were first mailed. The legislators filled out the first or summary page of the form to determine if the results had any relationship to the results of the mailed survey. Relationship of the rankings of the averages of each group's responses was significant at the .01 level.

The total population, or 169 members, of the 1978 General Assembly of North Carolina was surveyed. A response rate of 73 percent, or 123, was obtained. The membership is very homogeneous on characteristics such as race (Caucasian), religion (Protestant), political party (Democrat), site of birth (in-state), and site of post-secondary education (in-state).

A personal letter, copy of the survey instrument and a self-addressed stamped envelope were mailed from the North Carolina Governor's Office of Citizen Affairs early in September 1978. A follow-up letter and additional survey form was sent three weeks later to non-respondents. A telephone call was made five to six weeks after the initial mailing to non-respondents.

Scores on the 95 survey items, and personal characteristics (region represented, political party, sex, race, religion, profession, educational level, site of post-secondary education, place of birth, age, tenure, effectiveness rating, and pro-governor rating) were coded on cards for assistance in analysis by computer. Analyses included frequencies and means for the responses to each of the 95 survey items to answer the first research question. A multivariate analysis of variance using the nine summary activities as criterion variables; age, tenure and effectiveness rating as covariates; and region represented, profession, sex and site of post-secondary education as factors was used to analyze the data for the answer to the second research question, as well as a multiple regression analysis to test the relationships between age, tenure and effectiveness rating and the nine summary activities. A discriminant analysis was done between the respondents and non-respondents to the survey and no significant differences were found between the two groups.

In summary, it was found that visits to the legislator's office were reported most effective in the perceptions of the respondents. Next in order of effectiveness were telephone calls, mail, contacts by other legislators, testifying at hearings, telegrams, contacts at social affairs, media, and finally, petitions. Other findings suggested that the more information contained in the communication, the more effective it was reported as being perceived. Mail, telegrams and telephone calls were perceived as more effective if they did not seem to be part of an organized effort. The effectiveness of media communication appeared to depend on how established the forum was. Editorial support was reported as more effective than reporting and letters to the editor; and public meetings, professional meetings and press conferences more than picketing and demonstrations, either orderly or disorderly. Table 2 shows the effectiveness of the nine summary activities of citizen advocacy as perceived by members of the North Carolina General Assembly (see next page).

Further findings show some interesting differences in relative means among the subcategories of the summary activities. Of the three types of office visit, the individual with an appointment ranked higher than the individual who dropped in, and he in turn received a higher ranking than the organized interest group delegation. There was very little difference among means of the four situations in which citizens might testify at hearings (individuals or group representatives, requested or were requested to testify). Social contacts were more effective if the person making the contact was well known by the legislator than if the contactee were a casual acquaintance or a group representative.

For telephone calls, mail and telegrams, the single communication was reported more effective than obvious campaigns, and between the two different types of campaign, the communication from a less established group was perceived as more effective than contact from members of an established interest group. The same is true of petitions for the two types of campaigns.

Backing one's position with research was the most effective content for communications to include. The inclusion of reasons rescued a contact from being disregarded or considered not effective or ineffective for any citizen contact.

Colleague contact was reported slightly more effective when the colleague was speaking on an issue in his own area of expertise, as opposed to one in the respondents' area. Of the colleague contacts, an informational contact was reported more effective than a contact which requested a commitment or which used an appeal based on a favor owed the colleague.

Reporting, media editorials and citizen letters or comments ranked close together in effectiveness, none very high. Public and professional meetings ranked the highest in effectiveness of media "events", fairly closely followed by press conferences. Non-establishment methods, such as picketing and demonstrating received low rankings of effectiveness.

No relationships were found to be significant at the .01 level using the multivariate analysis of variance, although interactions of sex with site of education and region with sex were significant at the .05 level. Of the nine criterion variables, contact at social affairs appeared to be significantly related at the .01 level to the interaction of sex and site of education; and contact by other legislators appeared to be significantly related at the .01 level to the interaction of region and sex. Two other significant relationships surfaced among specific criterion variables: testifying at hearings seemed to be related to the interaction of age and

TABLE 2
EFFECTIVENESS OF CITIZEN ADVOCACY ACTIVITIES AS PERCEIVED BY MEMBERS OF THE NORTH CAROLINA GENERAL ASSEMBLY
(Summary)

Activity	Total Responses[a]	Average	Frequency of Response				
			1 Effective	2 Ineffective	3 Not Effective	4 Effective	5 Very Effective
I. Direct Contacts with Constituents							
Visit in office	123	4.43	1	6	0	48	68
Testifying at hearings	123	3.93	2	2	18	82	19
Contact at social affairs	123	3.48	7	11	32	62	11
II. Indirect Contacts with Constituents							
Telephone calls	121	4.16	1	5	4	74	37
Mail	123	4.11	2	4	4	82	31
Telegrams	123	3.66	4	8	24	74	11
Petitions	121	3.07	13	19	42	41	6
III. Other Indirect Influences from Constituents							
Contacts by other legislators	123	4.05	1	4	9	83	26
Media	122	3.25	6	13	52	47	4

[a] Totals do not always add to 123 due to omissions by some respondents of some items.

sex (.032 level); and petitions seemed to be related to sex (.012 level). Females who had been educated above the high school level at out-of-state schools seemed to consider contact at social affairs in the "ineffective" category. Other females and all males ranked the category "effective." Again, it was females from the Coastal and Mountain regions whose ratings of contacts by other legislators were different from other females and all males. Females in the law and other professions perceive testifying at hearings to be less effective than females in business and males in all professions. Finally, females rated petitions as less effective than males. (Since petitions were rated as "not effective" by all, this finding is not particularly interesting.)

A word of caution is in order. Many of the cells of the analysis of variance matrix that were found to have significant differences in means were different in size, and the aberrant cells were usually the lowest for the specific interactions.

Of the three continuous variables used in the multiple regression analysis, age was the only one which seemed to have any relationship to any of the summary activities. That relationship is slight and inverse with contact at social affairs, contact by other legislators, and telegrams. Legislators who are older perceive the activities listed in the previous sentence as less effective than those who are younger.

The first suggestion for further research encompasses the use of the survey form and the methodology for the first question of this study in other state legislatures and in Congress. It would be interesting and helpful to compare findings from the North Carolina General Assembly to other state legislatures and to the Congress.

Second, further research is required to explain the relationships discussed above: the interaction of sex with site of education as it relates to contact at social affairs, the interaction of sex with region represented as it relates to contacts by other legislators, and the interaction of sex with profession as it relates to testifying at hearings. To overcome cell imbalances in the analysis of variance matrix, stratified random samples of males could be used to compare males with the total population of females.

Third, the relationship of age to three of the nine summary activities should be explored more rigorously.

Finally, other personal characteristics that were not studied and which might lead to some significant relationships are race, religion, level of education, place of birth (in- or out-of-state), political party, index of cosmopolitanism, and liberalism or conservatism. The heterogeneity of the membership of the legislature determines to some extent the variables which can be analyzed.

Bibliography

Berry, Jeffrey M. Lobbying for the People. Princeton, New Jersey: Princeton University Press, 1977.

DeVries, Walter D. "The Michigan Lobbyist." Ph.D. dissertation, Michigan State University, 1960.

Ferguson, LeRoy C. "How State Legislators View the Problem of School Needs." Cooperative Research Project #532, Office of Education. East Lansing, Michigan, 1960.

Kingdon, John W. *Congressmen's Voting Decisions*. New York: Harper & Row, 1973.

Levitt, Morris J. and Feldbaum, Eleanor G. "Councilmembers, Lobbyists, and Interest Groups: Communication and Mutual Perception in Local Politics." *Journal of Voluntary Action Research*, 4, 1 and 2 (1975), pp. 98-103.

Milbrath, Lester W. *The Washington Lobbyists*. Chicago: Rand McNally and Company, 1963.

Porter, H. Owen. "Legislative Experts and Outsiders." *Journal of Politics*, 36, 3 (1974), pp. 703-730.

Scott, Andrew M. and Hunt, Margaret A. *Congress and Lobbying*. Chapel Hill, North Carolina: University of North Carolina Press, 1965.

United States Senate. *Report of the Special Committee to Investigate Political Activities, Lobbying and Campaign Contributions*. 85th Congress, 1st Session. Washington, D. C.: Government Printing Office, 1957.

Zeigler, Harmon and Baer, Michael. *Lobbying: Interaction and Influence in American State Legislatures*. Belmont California: Wadsworth Publishing Co., Inc., 1969.

Field Methods for an Inductive Approach

Carol J. Compton
Cornell University

Adult education research is an area which has need for new theory; the building of theory through inductive research is seen here as one way of working toward that goal. The particular research techniques to be discussed are the field methods used in an inductive approach to research conducted in an Asian country.

Purpose

In spite of a theoretical commitment to maximum participation by target populations in nonformal adult education activities, most projects and programs are designed, and their content determined, by persons or agencies external to the groups they purport to serve. The result is that many programs are not fully assimilated into the local community and are often viewed with disinterest, fear, and/or little confidence.

This particular research project proposed to examine the following hypotheses:

Sustained popular participation in educational activities will result when:

a) People are provided an opportunity to determine for themselves or in joint action with their peers the content to be dealt with in a particular learning experience.
b) People are involved in the choosing and/or development of the teaching-learning strategies, methods and materials to be used in a particular learning experience.
c) The people themselves frequently assume leadership or instructional roles.
d) The achievement of learning objectives is immediate and substantial.
e) The application of content learned is immediate and rewarding.

This research was designed as the first of a three-stage research effort into participative education programming. This initial phase has been exploratory and descriptive in nature, the projected second phase is to be of an applied nature, and the third stage will focus on the dissemination of knowledge gained from the research.

A highly participatory, nonformal adult education project was chosen as an exemplary case study within which the above hypotheses regarding the effects of participation on program design and success would be tested. Staff members of the selected project were trained in interview and data collection techniques and undertook the actual information gathering process over a period of nine months.

Study results are being compiled in a report directed to nonformal adult education project designers and practitioners, highlighting the rationale and methods for increasing participation in nonformal adult education.

What is learned from this research about how people define their learning needs, and how those needs are then addressed in an organized way, will be complimentary to knowledge that is being developed by others regarding materials and methods, evaluation designs, and networks for exchange of nonformal adult education experiences and insights. This would enable each of these activities to relate as closely as possible to perceived needs of target populations.

Research Methodology

Methodological dimensions of the research included the use of grounded theory and inductive methods. Case study and ethnographic field techniques including participant observation, diary accounts, and in-depth interviews with key informants were employed.

Some particular features of the research were

1) the use of on-going, grassroots activities as a vehicle for researching popular participation in community development and adult education
2) the design and use of a thematic questionnaire based on themes emerging from reviews of research-based literature and from past personal experiences
3) multi-dimensional sampling, including consideration of climatic zones, ethnic distribution, and high-low participation rates
4) field interviewers establishing rapport by first living among the people as participant-observers
5) the segmenting of interviews into a series of sessions
6) the use of lead questions followed by optional probes
7) follow-up field visits by the principle investigators to representative sites
8) the use of a "levels of analysis" approach, focusing intially on a content analysis of the qualitative responses for the purposes of grouping those responses, categorizing them, assignment of scores, and comparative data analysis
9) the debriefing of the field interviewers for further sensitising the investigators to the cultural context and to check data gaps.

The Process

Both the supervision of the field research and the interviewing of the key informants were handled by Sinhalese. Dr. Nandasena Ratnapala, Professor of Anthropology at Vivodhaya University and Senior Research Consultant for the Sarvodaya Research Center, served as supervisor of the field research. He was responsible for the selection and training of the interviewers, the pretesting and revision of interview schedules, and the supervision of the collection and the preparation of the data (translation) for analysis.

Initially, the principal investigator held several lengthy, intensive sessions with Dr. Ratnapala and four other members of the Research Center staff in which the purpose and the design of the research were discussed and analyzed. At that time the interview schedules were studied in detail, and each theme and its accompanying questions were discussed.

Field interviewers were selected by Dr. Ratnapala with care. For the most part, they were young men with village backgrounds and college training. Those who were sent to the Tamil villages were of Tamil background. The field interviewers were then put through a two-week training period by Dr. Ratnapala. This training included lectures, practice in using the interview techniques appropriate with a thematic questionnaire, a trip to a pretest village to try out what they had previously practiced only in a classroom setting, and finally a revision of the questionnaire by the group based on their experiences with it in the pretest village.

Before beginning to interview in any village, the interviewers spent a day or two becoming acquainted with the village and the area. They arranged for housing in the community and lived there during the interview period (which sometimes was as long as two weeks). They became familiar sights in the village. Since the interviewers were originally from villages themselves, they were familiar with village ways and were able to fit in quite nicely with the community. These initial days also allowed the interviewers to be participant-observers, getting to learn something about the village activities at that time. During this period the interviewers also obtained the householders list from which the village sample would be selected.

Now the interview sessions began. Interviewers had been shown how to segment interviews during their training. Consequently, when it became necesaary or useful to limit the length of interview sessions, the interviewers were aware of appropriate stopping points. Since the questionnaire was based on themes, an attempt was made to complete all questions under one theme before ending an interview session. Thus, in the next session, the questions asked would be on a new theme, and the ideas and train of thought of the interviewee on a particular topic would not be interrupted.

Another important aspect of the interviews was the use of lead questions under each theme. These lead questions attempted to get at basic information relating to that theme. Each lead question had a series of optional probes which the interviewer could make use of, should he deem it useful or necessary to learn more than was originally presented in a response.

The majority of the lead questions were of an open-ended nature. If alternative questions (either/or) or questions requiring a yes/no response were used, probes of the "why" variety followed. Throughout the interview sessions, the emphasis was on providing the interviewee with an opportunity to share as much relevant information as possible under each major theme.

Following the completion of the field interviews (which were conducted in Sinhala or in Tamil) the interviews were transcribed from the tapes and then translated into English. This work was done by a team from the Research Center. Initial transcriptions were done by the interview teams themselves; translations were done by members of the Research Center staff, and they referred any problems to the initial interviewers for clarification.

Follow-up field visits were then made to representative sites in the study by the principal investigators. This provided an opportunity for the investigators to become better attuned to the village environments and to meet and talk with some of the interviewees. As we worked on the analysis of the data later on, we had a better feeling for the data and for the people who had presented this information to us. This proved helpful in establishing categories from the data provided to us.

When we returned from the field visits, we went over the data at the Research Center. We checked for gaps, major errors, or other points of confusion in the material which had been gathered. We discovered a number of references to cultural activities which were not adequately described, and a number of Sinhala words which had not been translated into English. We sought the assistance of the Center staff in dealing with these problems.

After visiting some of the field sites, going over the data, and talking with a number of staff members involved in the project, a brief, open-ended questionnaire was designed which served as a guide in interviewing the field interviewers about their work. Besides obtaining general demographic information from the interviewers, questions were asked related to 1) the process they used from the minute they entered the village to the completion of the interviews in that village, 2) language and cultural problems which might have been encountered during the field work, and 3) logistical and interview-specific problems encountered by the interviewers. Finally, the interviewers were asked to share any information which they felt would be important for us to know as we went over the data and began to analyze it. The person responsible for most of the translation work was interviewed in detail. In addition, a long session was held with members of the Research Center staff to discuss the research projects - past, present and future.

Discussion

One of the primary strengths of inductive research is that it lends itself to hypothesis building. The kinds of data obtained are different from the kinds obtained during deductive research. Because of the nature of the methods used for obtaining information/data from respondents, one can expect to get large quantities and a wide variety of information on a particular theme or topic. Because respondents are given the opportunity to express their own ideas (rather than simply asked to react to hypotheses and related questions already designed by the researchers) new viewpoints and perspectives about the issues discussed may be obtained. Inductive research of this kind is exploratory in nature. The data collected from any particular question or theme may be uneven, both in terms of quantity and quality, since one respondent may present a lot of information about a particular aspect of a question or theme, while another respondent may present another aspect or provide little information or none on that same topic.

There can be some problems with this kind of research. In this study, questions arose concerning the following: 1) the effects of the construction and presentation of questions and themes on the responses, 2) the influence of the setting and/or environment in which the interviews took place, 3) the effects of logistical problems encountered by the interviewers on the nature of the data obtained, and 4) the importance of proper training, preparation, and field support of interviewers.

Because of the nature of the data obtained through inductive research, the analysis of the data may actually take longer than the analysis of data obtained through deductive research. In addition, the training of interviewers may have to be more intensive, since the interviewers have to understand the nature and purpose of the research quite well in order to conduct the field interviews. They have to know when it would be useful to probe, when the information being shared is not productive for the purposes of the research, how to encourage the respondents to elaborate on particularly useful or interesting points, whether a session should be brought to a close temporarily or adjourned until another day, what points need to be clarified for the sake of the respondent, and what kinds of information should not be contained in a question if the response is to be free from interviewer direction.

Conclusion

Good inductive research data can lead to the development and later testing of hypotheses which are grounded in fact. Inductive research is an important and valuable approach for adult education researchers to explore in the building of new theory in adult education.

IMMIGRANT ADULT EDUCATION: TASKS OF ADAPTATION

Judith Mastai
Doctoral Student
University of British Columbia

Purpose and Scope of the Study

At the present time, there is little agreement as to what constitutes successful integration or adaptation. For Canadians, whether or not an immigrant successfully adapts, or how we measure if he has, seem less useful questions than inquiring into the process of adapting and the kinds of tasks immigrants encounter when they enter a new society. The resolution of tasks of adaptation requires learning. There is a lack of knowledge as to the nature of tasks of adaptation, what causes their difficulty for immigrants and what sources of information immigrants use in resolving tasks encountered.

This study examines the adaptation process of Israeli immigrants to Vancouver, British Columbia in an attempt to determine a representative list of tasks which immigrants encounter upon arrival in a new country and implications for the design of programs for immigrant adults. Although, in the past, intuition has been applied to this problem by instructors and officials who work with newcomers daily, to date no empirical evidence has been gathered to support their intuitions.

This study is not concerned with the degree of adaptation of Israeli immigrants to Canadian life, their motivations for emigration or prejudice they might have encountered in this society. Rather it addresses four general research questions:

1. What kinds of tasks emerge during adaptation to life in a new society?
2. Which, if any, socio-demographic characteristics affect difficulty experienced in resolving tasks of adaptation?
3. What relationship, if any, does difficulty of tasks of adaptation bear to the following factors: extent of cultural innovation required, length of resolution time required, importance to the immigrant when s/he first encounters the task and stage of task resolution?
4. How is the use of adult education sources of information for resolving tasks of adaptation related to difficulty of tasks?

Basic Concepts

After an extensive literature search it became apparent that the body of adult education literature did little more than introduce immigrant education as one aspect of adult education. In the main, articles provided inadequate descriptions of isolated programs with little rationale and no follow-up. Few of the authors provided empirical evidence

---

Address requests for reprints and further information to:
Judith Mastai, 2175 West 14th Avenue, Vancouver, B.C. V6K 2V8

for their opinions. It was therefore necessary to explore literature in a number of other fields as well and many of the basic concepts used in this study arose from the field of sociology.

Migration to a new country is a developmental event (Bengston, 1973) and adaptation (Goldlust & Richmond, 1974) is the process by which individuals resolve that event. Adaptation is defined as the mutual interaction of individuals and collectivities and their response over time to particular physical and social environments. As immigrants adapt, they encounter a number of tasks of varying difficulty which force them to learn new information, procedures and customs from personal sources and mass media in the natural societal setting. (Alleyne & Verner, 1969) The way in which immigrants resolve or fail to resolve each task may affect their motivation to continue their adaptation process.

The focus of education for immigrant adults has changed over the last fifty years in Canada from citizenship education to English language training (ELT). Lately, a situational approach to ELT has enjoyed popularity as intuition and experience have led instructors to conclude that situations provide a meaningful context for language learning. However, situations generally only form a context for grammatical curriculum. The application of a program-oriented approach to immigrant education might serve the immigrant adult's resocialization better than knowledge-centered curricula by allowing educators to meet immediate and specific educational needs of the learner as they change. Identifying tasks of adaptation might assist adult educators in planning programs for immigrant adults in the same way as Havighurst's (1953) identification of developmental tasks has assisted in the planning of programs for adults in general.

Methodology

An analytical survey was conducted from January to April, 1977 with 72 Israeli immigrants to Vancouver, British Columbia. Because of difficulties in identifying the population, participants were selected by "snowball sample" and all of them were approached to be interviewed by eleven bilingual (Hebrew and English) interviewers who had undergone tests of interviewer objectivity and reliability.

Thirty-six tasks, selected from personal case histories and a wide range of literature and refined over a three-year period, were utilized in the study and their difficulty was measured by magnitude estimation. (Stevens, 1966, 1966; Holmes & Rahe, 1967; Masuda & Holmes, 1967, 1967) Magnitude estimation was chosen for this study for two reasons. Firstly, it preserves the actual assigned ratios between items and these ratios are generated from the respondent's perceptions of the data, not from the instrument. Secondly, it allows items to be added by interviewees - a property which is especially desirable in a study such as this where no list of tasks has ever been ascertained and the tasks identified by the author may have been limited.

The items used in the magnitude estimation instrument were subjected to three tests of reliability and four types of validity were shown: face validity, predictive validity, convergent validity and criterion group validity.

During the interviews which were previously pilot-tested, participants were asked questions regarding their socio-demographic characteristics, tasks of adaptation, difficulty of tasks, time required to resolve tasks of adaptation, relative importance of tasks, whether or not each task was resolved and to what extent (stage of task resolution) and sources of information used in resolving tasks. The interview consisted of a questionnaire, direct scaling magnitude estimates of difficulty of tasks of adaptation, a time line to elicit two points in time (when a task first became apparent and when it was resolved), rank ordering of importance of tasks and a Q-sort of tasks according to resolution stages. Information regarding sources of information for resolving tasks was prompted by presentation of a list of possible sources.

In a small separate study with a group of 52 experts from a variety of countries, a typology suggested by Lionberger's four types of innovations (1960) was used to tabulate the extent of cultural innovation required by each task.

The data was subjected to a variety of analyses yielding frequency distributions and correlation co-efficients for all variables, regression coefficients for ordinal socio-demographic variables and geometric means for magnitude estimation items.

Results

A few more women than men were represented among the 72 respondents whose ages ranged from 23 to 59. In comparison to other ethnic groups in Canada, they were a well-educated group, particularly the married men. About one-half of them were born in Israel and most had lived in from two to four countries and in Vancouver from one to ten years.

The ten most difficult tasks were getting a satisfying career-oriented job, speaking good English, using a different system of sizes, weights and measures, reading a local English-language newspaper regularly, getting used to a different sense of humor in Canada, finding a permanent place to live, budgeting for life on a different economic level, gaining acceptance of existing occupational qualifications, adjusting to the climate in Vancouver and accepting a change of status in the community.

No one socio-demographic variable proved to be a good predictor for all 36 tasks and, in the case of employment-related tasks, no variables appeared in the regression equation. On a task-by-task basis, some predictability was determined for seventeen of the 36 tasks.

Of the relationships between difficulty and other factors (extent of cultural innovation, length of resolution time, importance and resolution stage), only that of difficulty and extent of cultural innovation appeared to suggest the need for further investigation. A significant positive correlation was found between the difficulty scores of the 72 Israeli respondents and the cultural innovation scores of 52 experts. The scores of the experts also correlated positively and significantly to the difficulty scores of 28 immigrants from a variety of countries who were members of an advanced English class at King Edward Campus, Vancouver Community College. This suggests that the relationship between difficulty and extent of cultural innovation required by tasks may be generalizable to non-English speaking immigrants to Vancouver in general. Refinement of the instrument and additional examination of the relationship between these two variables would seem to be suggested by the findings.

Respondents tended to use personal sources of information more frequently than any other source for most of the 36 tasks. Individual instruction and instructional groups were used most frequently with regard to the most difficult task, getting a satisfying career-oriented job. Individual instruction was utilized frequently for information on procedures. Instructional groups were sought most often for tasks relating to language learning, making friends and finding employment.

Discussion

There are two assumptions underlying this study with respect to the role of adult immigrant education. The first is that education serves a remedial function to bring the newcomers up to date on the language, values and factual knowledge they will need to adapt to life in this society. The second is that educators serve the needs of the individual learners and assist them to achieve their expectations for life in Canada by determining educational gaps and providing instruction to assist them in bridging those gaps.

One significant difference between the expectations of Canadian society and those in many other countries is that we have embraced cultural pluralism as the guide for our federal multicultural policy. Requirements for citizenship are age, length of residence, knowledge of English or French and knowledge of enough Canadian history, geography and government to pass an oral citizenship exam. Clearly, multicultural policy is not product or end oriented. Canada does not subscribe to a melting pot philosophy and there are no criteria for successful adaptation. The choice to adapt is in the hands of the newcomers, as perhaps it always was, and aside from the citizenship exam, their own expectations are the only criteria for determining whether or not they have adapted to life in Canada. No end-states have been legislated. The implied emphasis is on the process of adaptation.

103

The list of tasks of adaptation is by no means finite and was not meant to be. The tasks utilized in this study were generated as examples of the use of the basic concepts and to provide a basis for discussion, criticism and improvement of the application of this approach to adaptation and the role of immigrant adult education.

Implications

The major implications of the study for adult educators relate to program planning for immigrant adults, the delivery of programs and educational counselling. While time of resolving tasks of adaptation did not appear to inform difficulty, the mean time at which a task was resolved by the participants in this sample could well inform programming for adult immigrants. Alternatively, in view of the relationship between difficulty and extent of cultural innovation required by tasks, programs could be designed for students of beginner, intermediate and advanced levels of English fluency on the basis of extent of cultural innovation required by tasks. Also of use is the finding that personal sources of information were used with far greater frequency than adult education sources, except in the case of the most difficult task, getting a satisfying, career-oriented job. In addition to being the most difficult task, this was the last task to be resolved, one requiring the greatest extent of cultural innovation and the one which, according to Manpower and Immigration's (1974) study, is the main determinant of successful adaptation. Courses oriented to learning the English of specific vocations, to procedures for getting occupational qualifications accepted in Canada and to job retraining opportunities therefore seem imperative.

Conclusion

In a country like Canada with a multicultural policy that supports one of the highest levels of cultural pluralism in the world, it is the individual immigrant who decides the extent of his integration. The concept of tasks of adaptation provides adult educators with a valuable program planning tool so that they may promote and assist the immigrant's adaptation process by designing programs appropriate to the needs.

References

Alleyne, Patrick E. and Coolie Verner. Personal Contacts and the Adoption of Innovations, Rural Sociology Monograph No. 4, Department of Agricultural Economics, University of British Columbia, 1969.

Bengtson, Vern L. The Social Psychology of Aging, Bobbs-Merrill Company, Inc., 1973.

Goldlust, John and Anthony H. Richmond. "A Multivariate Model of Immigrant Adaptation", International Migration Review, Vol. 8, Nos. 1-4, pp. 193-225.

Havighurst, Robert J. Human Development and Education, New York: David McKay Co., 1953.

Holmes, Thomas H. and Richard H. Rahe. "The Social Re-adjustment Rating Scale", Journal of Psychosomatic Research, Vol. 2, 1967, pp. 213-218.

Lionberger, Herbert F. Adoption of New Ideas and Practices, Ames, Iowa: Iowa State University Press, 1960.

Masuda, Minoru and Thomas H. Holmes. "Magnitude Estimations of Social Re-adjustments", Journal of Psychosomatic Research, Vol. 2, 1967, pp. 219-225.

Masuda, Minoru and Thomas H. Holmes. "The Social Re-adjustment Rating Scale: A Cross-Cultural Study of Japanese and Americans", Journal of Psychosomatic Research, Vol. 2, 1967, pp. 227-237.

Stevens, S.S. "A Metric for the Social Consensus", Science, Vol. 151, February, 1966, pp. 530-541.

Stevens, S.S. "Matching Functions Between Loudness and ten other Continua", Perception and Psychophysics, Vol. 1, 1966, pp. 5-8.

------------ Three Years in Canada: First Report of the Longitudinal Survey on the Economic and Social Adaptation of Immigrants, Canadian Immigration and Population Study, Ottawa: Information Canada, 1974.

INFORMATION RESOURCE UTILIZATION PATTERNS AND THE LEARNING EFFORTS OF LOW INCOME, URBAN ADULTS

Nan Booth, University of Maryland

Introduction

Much of the prior research on adult learning has focused on learning that has taken place in structured educational situations. Fewer studies have investigated the informal learning that is conducted at home, among friends, and in the community. Since low income adults are less likely to be involved with structured learning, adult educators know little about their learning patterns. This lack of knowledge tends to perpetuate the sterotype that poor people are not involved in learning. Investigations into the learning patterns and projects of low income adults should provide adult educators with an improved understanding of this population. More pragmatically, this knowledge should help community educators plan and deliver effective educational programs in limited income communities.

Purpose

This paper briefly describes the learning efforts of low income urban adults in terms of their learning interests, methods, locations, and perceived barriers. The focus of the paper is on the adults' use of resources in three specific projects: budgeting, job training, and parenting. In reference to their information resource utilization, 4 questions were posed:

1. What information resources are considered useful?
2. Are similar types of information resources used in different projects?
3. What information delivery systems are considered most effective?
4. What information resources are found in the homes of low income urban adults?

Critical Review of Literature

The learning project approach developed by Tough (1971, 1976,1977) provided both the conceptual model and the basis of the investigative tool for the learning effort section of this study. Tough's intention was to collect data on some basic characteristics of learning projects in several adult and youth populations. In the last decade, several reserchers have used his framework. (The reader is referred to Tough (1977) for a detailed discussion of his framework and a complete bibliography.) Hiemstra's (1972, 1976) concept of the educative community, Havelock's (1969) work on resource utilization, and Roger's (1971) discussion of diffusion provided the bases for the questions on types and patterns of information resource utilization.

Reprints can be obtained by contacting the author through the Department of Agricultural and Extension Education, Room 1109, Symons Hall, University of Maryland, College Park, Maryland 20742

Methodology

This study was non-experimental in design and utilized a semi-structured interview schedule. A random sample of 119 adult residents of Cherry Hill, the largest public housing development in Baltimore, Maryland, was selected for interviews. All interviews were conducted by me in the homes of the residents. Sections from the Tough Interview Schedule (1970) on resources, methods, locations, and barriers were selected for this study's interview. In terms of resources, the interview focused on three specific projects: budgeting, job training, and parenting. Questions developing a detailed description of the residents in terms of educational background, participation in adult education, employment status, volunteer involvement, organization membership, and an inventory of information resources in their homes were also included. Descriptive statistics, chi-square analysis, and paired T tests were employed in the treatment of the data.

Findings

Description of Sample

If the average adult resident was to be described from the data, the following profile would emerge. She is a 35 year old black unemployed woman with 3 children. She has lived in Baltimore most of her life and has resided in Cherry Hill about 10 years. In terms of education, she has completed 10 years of schooling. In her perception, this schooling has not helped her handle budgets or raise her children. Despite these feelings,she has participated in some adult education class as an adult. Although she has not done any formal volunteer work, two out of five of her neighbors have done volunteer work. She does not belong to any organizations.

Learning Interests and Projects

Residents averaged nearly 4 learning interests and had conducted, on an average, 3 learning projects. Ninety percent of the residents were interested in learning about their homes and family life. Nearly as many residents were interested in job training topics. About one third of the residents had learning interests in recreation-hobbies and general education. Fewer residents were interested in learning about topics related to personal development, current events, and religion. The types of learning projects conducted by the residents were closely aligned with their learning interests.

In terms of relationships, learning interests and projects pertaining to job training and religion were found to be associated with the resident's age and stage in the family life cycle. Interests in religion and recreation-hobbies were found to be related with employment status. Interests in general education were associated with the residents' years of formal education

Learning Methods

Residents learned by conversing, trial and error, reading, watching television, listening, and observing others. Over one third of the residents felt trial and error was the most helpful way for them to learn. Sixteen percent of the residents felt either observing others, reading, conversing, or listening was the most helpful learning method, and less than 3 percent of the residents thought watching television was the best way for them to learn.

Learning Location

Nearly 90 percent of the residents thought the home was a place where adults learn and approximately half of the residents felt adults learn in the street and at school. Nearly one third of the residents named place of employment as a learning location. Fewer residents felt adults learned in church, friend's home, library, community center, or the store.

In terms of the one location where residents felt most of their learning occurred, over 60 percent said in their home and nearly 24 percent said in the street. Less than 5 percent of the resident named one of the other locations. Associations were found between the location where the residents felt most of their learning took place and the residents' age and stage in the family life cycle.

Perceived Barriers

Discouragement was perceived as a learning barrier by over 23 percent of the residents. Lack of interest, time, money, transportation, family problems, not knowing where or how to start, and poor health were each perceived as learning barriers by over 10 percent of the residents. About 15 percent of the residents felt they had encountered no barrier to learning. An association was found between perceiving discouragement as a learning barrier and the residents' years of formal education.

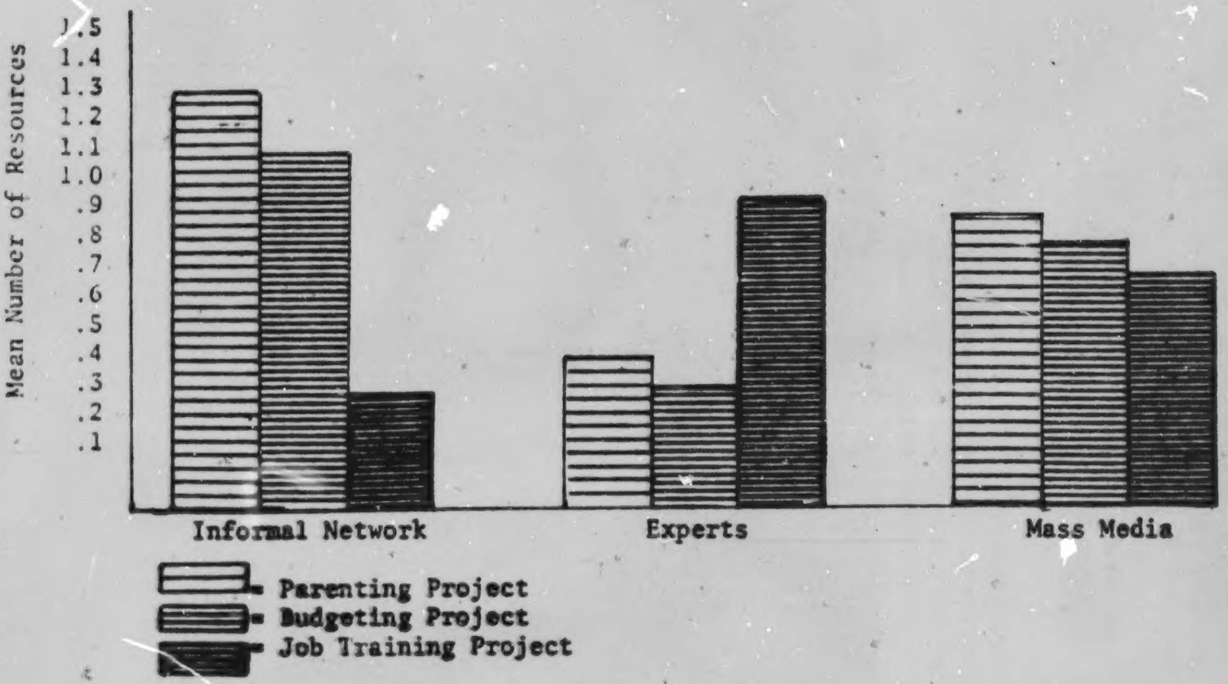
Information Resource Utilization

In terms of specific information resources which were perceived as useful by the residents, televison was mentioned by more residents (67%) than any other resource. Mothers were mentioned by nearly 49 percent, self by 45 percent, and friends and neighbors by 41 percent. Other resources which were considered useful by at least 20 percent of the residents were books, magazines, newspapers, job trainers, and job counselors. All resources were later categorized into one of the following three types: informal network, expert, and mass media resources.

For the most part, residents perceived different types of resources as being helpful in budgeting, job training, and parenting projects. When the mean number of the different types of resources considered useful in each of the three projects were graphed, a pattern of resource utilization emerged. (See Figure 1.) Significant differences between the mean number of informal network, expert, and mass media resources were found in all but two comparisons.. The two exceptions were: (1) the comparison between informal network resources in the budgeting and parenting projects, and (2) the comparison between the mass media resources in the budgeting and job training projects.

In reference to information delivery systems, over 26 percent of the residents felt a combination of methods were most effective in Cherry Hill.

Figure 1. Mean Number of Types of Information Resources Perceived as Useful in Budgeting, Parenting, and Job Training Projects of 119 Residents of Cherry Hill in Baltimore, Maryland, 1978.



Door to door talking, putting flyers under the door, and holding community meetings were the single methods mentioned most often by the residents.

The resource inventory revealed most residents owned televisions and radios. About four fifths of the residents had record players and operating telephones. Over 60 percent of the residents had access to a library card and owned a tape recorder. Approximately half of the residents received occassional newspapers or owned encyclopedias. Fewer residents received daily newspapers, magazine subscriptions, or belonged to a book club.

The findings pertaining to information resource utilization need further clarification but even in their present form they have application to community educators. If low income urban adults, like the residents of Cherry Hill, rely on their family and friends for help in those areas where they have experience and insight, it would seem to me that educators should utilize the residents' informal resource network. "Expert" advice in these areas appears to be neither utilized nor respected. However, educational programs involving direct contact with experts should be used in areas where the community itself lacks resources. From my observations, these areas may include job training, general education, and some areas of health education and hobbies.

For a detailed presentation, discussion, and application of this study's findings, the reader is referred to Booth (1979).

Selected Bibliography

Booth, Nan. Information Resource Utilization and the Learning Efforts of Low Income Urban Adults. Unpublished doctoral dissertion, University of Maryland, 1979.

Havelock, Ronald G. Planning for Innovation Through Dissemination and Utilization of Knowledge. Michigan: Center for Research on Utilization of Scientific Knowledge, University of Michigan, 1969.

Hiemstra, Roger. The Educative Community - Linking the Community, School, and Family. Nebraska: Professional Educators Publications, Inc., 1972.

Hiemstra, Roger. Lifelong Learning. Nebraska: Professional Educators Publications, inc., 1976.

Rogers, Everett M. Communication of Innovation. New York: The Free Press, 1971.

Tough, Allen. Interview Schedule for a Study of Some Basic haracteristics of Learning Projects in Several Populations. Toronto: The Ontario Institute for Studies in Education, 1970. (mimeographed)

Tough, Allen. "Self Planned Learning and Major Personal Change" in Adult Learning: Issues and Innovations, Robert Smith, ed., Syracuse: Clearing House in Career Education, Information Series No 8, 1976

Tough, Allen. The Adult's Learning Project: A Fresh Approach to Theory and Practice in Adult Learning. Toronto: The Ontario Institute for Studies in Education, 1971.

Tough, Allen. Major Learning Efforts: Recent Research and Future Directions. Toronto: Ontario Institute for Studies in Education, 1977 (mimeographed)

INSTRUCTOR BEHAVIOR AND PSYCHOLOGICAL CLIMATE IN ADULT LEARNING

Daniel D. Pratt
University of British Columbia

Teaching and Learning

Our present understanding of the relationship between teaching and learning is limited and confusing. On the one hand several competencies are suggested as necessary for instructing adults (Aker, 1974; Chamberlain, 1961; Mocker, 1974; Rossman & Bunning, 1978; Snyder & Ulmer, 1972). On the other hand, there is little or no substantial evidence of consistent or replicable features of instructor behavior that lead directly or even indirectly to valid learner outcomes across varied situations (Shavelson & Dempsey, 1976). In fact, research on teaching consistently shows that:

1. Teacher effects on learner achievement are unstable (Rosenshine, 1970) and
2. Most teaching behavior is unrelated to learner outcomes (Heath & Nielson, 1974; Rosenshine & Furst, 1971).

One is tempted to conclude that neither hand knows what the other is doing. Adult educators persist in surveys and texts recommending techniques and instructional competencies based on the opinions of practitioners and professors of adult education. At the same time, there is insufficient evidence to suggest that any specific instructor behavior or technique is directly or indirectly linked to learner performance or achievement. Yet, intuitively, it is hard to reject the idea that instructors play an important role in adult learning. In terms of Lewin's proposal that behavior is a function of the interaction between person and environment (Lewin, 1951), it is reasonable to suggest that an instructor is an influential part of a learner's environment, providing guidance, structure, information, reinforcement, and support. Admittedly, there are multiple facets of a learner's environment, but logic suggests one significant facet is the instructor.

Instructor behavior is not independent of learner's behavior. The two exist in a symbiotic relationship and are part of a complex set of conditions which interact to influence learning. Within this contect, instructor behavior alone bears a partial relationship to learning outcomes. This seems particularly relevant to adult education where there is great variation in types of students, instructional settings, goals, time frames, subject matter and institutional affiliation. The extent of generalizability from a given sampling of adult instruction to other similar or dissimilar situations depends on all facets of the situation. The greater the number of such facets, the more hazardous are the inferences (Cronbach, et. al, 1972).

Environment/Climate

The set of variables which include both the individual learner and the setting in which the learning occurs have been referred to as social climate (Anderson, 1970), learning environment (Bradford, 1975), environmental structure (Hunt, 1975), educative environment (Knowles, 1970), psychosocial climate (Trickett & Moos, 1973), environmental press (Murray, 1938; Pervin, 1968), psychological climate (Rogers, 1969; Steeler, et. al, 1971), and social environment (Walberg & Ahlgren, 1970). During the bonanza years of interation analysis,

---

Adult Education Research Centre, Faculty of Education, University of British Columbia, 5760 Toronto Road, Vancouver, B.C. V6T 1L2 Canada

instructor verbal behavior was considered the principal determinant of a learning environment (Mitchell, 1969; Simon & Boyer, 1974). It was characterized as content-free and method-free, depending upon the inclusiveness of one's definition of method. In any event, it proved inadequate due to the inability to generalize across instruments and observational systems (Rosenshine & Furst, 1973; Ragosta, et. al, 1971).

In a person-environment interaction paradigm, Hunt described the basic dimension of environmental variation as the degree of structure, or the degree or organization within the environment: "In high structure, the environment is largely determined by the teacher, and the student himself has little responsibility for organizing the environment" (1975:219). Consequently, for Hunt, environmental structure is seen as interacting differentially with the conceptual level of the learner. Conceptual level is assessed as either dependence upon imposed external standards (low conceptual level) or the capability of generating internal standards (high conceptual level). The basic idea is to match learner and environment on the basis of conceptual level and environmental structure (Hunt, 1975).

Similarities between Hunt's paradigm and aptitude-treatment-interactions are apparent. In essence, both represent a change in focus from asking, "Which instructional technique is better?" to include, "For whom?" and "For what purposes?"

More recently, Moos and associates at the Social Ecology Laboratory at Stanford University, developed scales for assessing environmental variation in schools, groups, psychiatric wards, community-oriented psychiatric treatment programs, residential treatment centers, correctional institutions, university residences, and work settings (Moss, 1974; Moos & Trickett, 1974).

All the Stanford scales measure environmental conditions in terms of the shared perceptions of persons in that environment. In classrooms, for example, students give their impressions of long-standing attributes of the instructional/learning environment. This method has been found to be more parsimonious than observational systems (McNeil & Popham, 1973; Moos, 1973 ; Rosenshine & Furst, 1973).[1] And, as Stern (1970) points out, while there may be some disparity between the perceived situation and the veridical one, for the students their perception is the reality.

Rationale and Purpose

While all the environmental assessment systems mentioned above acknowledge the unique role of the instructor in establishing and maintaining an optimal climate for learning, none define "optimal" in terms appropriate to adult instruction and adult learners. Such a system would have to accommodate adult basic education students as well as university graduate students. It would also have to address the most common statements and assumptions regarding characteristics of adult learning environments (eg. Knowles, 1970):

---

[1] On the question of students' evaluation of teaching, there is general agreement on two points: first, student opinion of teacher behavior is stable over time (Costin, et. al, 1971; Davidoff, 1970; Frey, 1975; McNeil & Popham, 1973), and second, most findings show no consistent relationship between student opinion of instructor behavior and student learning (McNeil & Popham, 1973; Shavelson & Dempsey, 1976). However, they are useful for instructional improvement, instructor assessment, and descriptions of instructional practice, but should not be generalized away from the specific situation reported (McNeil & Popham, 1973; Shavelson & Dempsey, 1976).

- respect for personality
- participation in decision-making
- freedom of expression and availability of information
- mutual responsibility for defining goals, planning and conducting activities, and evaluating outcomes
- physical and emotional comfort
- mutual trust and respect
- mutual support and help
- acceptance of differences

In addition, such a system should be specific enough so as to provide formative (or summative) data useful to the instructor, yet not so exclusively focussed on the instructor as to miss the subtleties of student-to-student relationships and interactions within an instructional environment. Of course, any assessment technique must meet acceptable standards in terms of reliability and validity. The purpose of this study was to develop and pilot test an assessment technique appropriate to adult learners and diverse adult instructional situations.

Description of the Instrument

The Instructional Process/Environment Questionnaire (IPEQ) is a 51 item instrument with 16 subscales (Table 1).[2] It asks students to help their instructor improve his/her instruction[3] by responding to each of the 51 items on two separate occasions: first, as to how is actually WAS in the course and second, as to how they'd have PREFERRED it. For purposes of this study only the actual (WAS) data will be analyzed.[4]

The initial pool of items and components was drawn from Shulman (1976) and Knowles (1970). Later additions and revisions incorporated ideas from Carkuff (1969), Egan (1975), and Rogers (1969). Extensive field testing was used to refine items. Thirty-one instructors and 461 adult students responded to earlier forms of the IPEQ. They represented adult instruction in business and industry, adult basic education[5], community colleges, federal and provincial ministries and adult education workshops. As a result of field-testing, the present study was undertaken to test the internal consistency and content validity of the IPEQ.

---

[2] Due to space limitations, only the component headings and descriptions appear in Table 1. Items are not listed.

[3] The directions have been important in order to avoid the halo effect of students wishing to protect their instructor and thereby giving distorted ratings.

[4] Discrepancy scores were used in counselling sessions with instructors. It has been useful for instructors to know to what extent their perceived behavior is congruent with the preferences of their students. In addition, most instructors have filled out an IPEQ on themselves to compare students' perceptions with their own.

[5] An alternate form has been developed for ABE students and is undergoing field testing.

Table 1

INSTRUCTIONAL PROCESS/ENVIRONMENT QUESTIONNAIRE: LISTING OF 16 COMPONENTS

A. ESTABLISHING GOALS AND CONTENT OF INSTRUCTION
The instructor suggests goals, topics, problems, skills, or activities individuals will pursue during the course of instruction.

B. CLARIFYING PURPOSE
The instructor helps individuals understand the purpose of the course and how it is relevant to their personal or professional lives.

C. CLARIFYING ROLES
The instructor explains his role and function (as he understands it) and his expectations for participants.

D. RECOGNIZING AND USING THE DIVERSITY OF ADULT GROUPS
The instructor capitalizes on the diversity of learner characteristics with adult learning groups (eg. age, experience, motivation, education, etc.) and helps group members use that diversity in constructive ways.

E. HOLDING TO FOCUS
In discussion, the instructor keeps the group on topics related to the goals of the course and does not allow himself or participants to wander off on irrelevant tangents.

F. MAKING A DEMAND FOR WORK
The instructor makes demands that are reasonable and in agreement with the goals and expectations for the course.

G. ACCEPTING INDIVIDUAL DIFFERENCES
The instructor accepts students or participants as unique individuals and conveys this to them by respecting their opinions and their contribution to the learning process.

H. SHARING FEELINGS
The instructor shares his feelings and encourages participants to share feelings when they are related to the goals, topics or skills of the course.

I. DEVELOPING TRUST
The instructor initiates a climate of trust and understanding between himself and the participants.

J. ESTABLISHING CONTENT CREDIBILITY
The instructor is enthusiastic about the content of the course and he shares his understanding of that content in a way that is clear and understandable to the learners.

K. SHARING RESPONSIBILITY AND AUTHORITY
Instructor and participants share the responsibility and authority for making decisions related to course content, procedures, and evaluation.

L. USING WAIT-TIME (SILENCE)
The instructor uses wait-time, or silence, to allow individuals time to extend their thoughts or answers and to increase student-to-student interaction.

M. RESPONDING TO INDIRECT CUES
The instructor recognizes indirect cues (both verbal and nonverbal) that may indicate confusion, acquiescence, or disagreement and responds to them in a direct way.

Table 1 (continued)

N. USING POSITIVE REINFORCEMENT
The instructor reinforces desirable behavior and credits individuals for their effort and accomplishments.

O. ALLOW FOR PRACTICE OR APPLICATION OF LEARNING
The instructor provides opportunities for people to practice or apply what they've learned and gives them feedback on their success in applying what they've learned.

P. DEALING WITH CLOSURE AND ENDING
The instructor helps participants reach closure on the instructional content (eg. summing up what's been accomplished and planning for further learning or application) and their membership in a group that may have developed close relationships and been mutually helpful.

Reliability

Using adult instructional groups from business and industry, community colleges, first-year university students, fourth-year university students and graduate students in adult education (N=146), the present version of the Instructional Process/Environment Questionnaire was tested for internal consistency of each of the sixteen clusters, using the Hoyt estimate of reliability. Despite the small number of items per component, and excluding the "Shared Feelings" component, the Hoyt estimates ranged from 0.51 to 0.90 (see Table 2). The Hoyt estimate provides an analysis of the reliability of the scale as determined by inter-person consistencies in responding to the scale.

For the total test, scores could theoretically range from 51-255; the observed range was 134-216. The test mean was 210.01 (N=146), and the standard deviation was 27.23. Hoyt's reliability estimate for the total test was 0.94 and Cronbach's alpha composite was 0.91. A histogram of scores indicates a fairly smooth unimodal distribution which is slightly negatively skewed. The correlations between the components are all positive, ranging from 0.106 to 0.714, and with one exception, are lower than the component-total correlations, thus providing an indication of the discriminant validity of the components.

Table 2

HOYT RELIABILITY ESTIMATES FOR 16 COMPONENTS IN THE IPEQ

Component	No. of Items	Hoyt Estimates
A. Establishing goals and content of instruction	4	0.54
B. Clarifying purpose	2	0.60
C. Clarifying role	2	0.74
D. Recognizing and using diversity	2	0.60
E. Holding to focus	3	0.63
F. Making a demand for work	3	0.55
G. Accepting individual differences	3	0.85
H. Sharing feelings	4	0.19
I. Developing trust	4	0.67
J. Establishing content credibility	5	0.82
K. Sharing responsibility and authority	3	0.71
L. Using wait-time (silence)	3	0.51
M. Responding to indirect cues	3	0.73
N. Using positive reinforcement	3	0.73
O. Allow for practice or application of learning	2	0.74
P. Dealing with closure and ending	5	0.90

Validity

The instrument was developed and used on the basis of competencies or components derived from the literature and intuitive logic. Thus, content validity of the instrument is based upon the use of items which were designed to represent the domain of meaning implied in each of the Instructional Process Components identified in the literature. Items used in this phase of development were selected from forms of the instrument which were field tested and subjected to principle axis factoring with unities on the diagonal, one single iteration of communalities and a varimax rotation. The item clusters from that analysis formed the basis for sixteen components. With some item modifications a similar factoring of the data from the present study was conducted. Forty-six items formed five interpretable clusters, accounting for 48.6% of the variance (see Table 3).

As previously mentioned, the items from the "Shared Feelings" component did not coalesce into a single factor; three of the four items loaded strongly in different clusters and the fourth failed to attach strongly to any of the five interpretable clusters. The five clusters formed in this latter factoring have been used to form the subscales of a revised instrument. This new form of the Instructional Process/Environment Questionnaire will be further tested on large groups of subjects in order to gather data for ongoing construct validity studies.

Table 3

FIVE CLUSTERS OF COMPONENTS

	Factors	Pct. of Var.	Cum. Pct.
A.	DEVELOPING AN ADULT-TO-ADULT WORKING RELATIONSHIP The instructor demonstrates respect for the experiental base of adult learners, their immediate orientation to learning, their subsidiary role as "learner", and constructively uses the diversity of adults participating in the instructional sessions.	28.0	28.0
B.	DEVELOPING MUTUAL UNDERSTANDING, SUPPORT, AND RESPONSIBILITY The instructor encourages participants to share in the responsibility and authority for making decisions and helping each other in relation to the course of instruction.	7.1	35.1
C.	DEALING WITH CLOSURE AND ENDING The instructor helps participants reach closure on the instructional content (eg. summing up what's been accomplished and planning for further learning or application) and their membership in a group that may have developed close relationships and been mutually helpful.	5.1	40.2
D.	ESTABLISHING ROLE CLARITY AND CREDIBILITY The instructor clarifies his role and function (as he understands it) and his expectations for participants, while at the same time establishing his credibility in that role.	4.5	44.7

Table 3 (Continued)

E.	GUARDING THE CONTRACT In discussions and other work, the instructor guards the agreed-upon contract and boundaries for the instructional group by keeping the group on topics related to the goals of the course and not allowing himself or participants to wander off on irrelevant tangents.	3.9	48.6

Discussion

Factor analysis yielded five clusters that make good sense, conceptually and intuitively. One cluster strongly emphasizes the development of an adult-to-adult working relationship, respecting individual differences, the broad experiential base of adult learners, their need to apply what they learn, and the acceptance of each learner as an important member of the group.

A second cluster emphasizes another aspect of andragogy, that of sharing responsibility and authority for decision-making related to the course, and through that process establishing a mutual support system that not only reinforces individuals for their success but supports them in their difficulties.

A third cluster deals quite clearly with endings and closure. It was the cluster that had the most consistent loadings above .8 (four of the six items loaded .8 or greater). Its emphasis is twofold: helping people reach closure on the instructional content (eg. summing up what's been accomplished and planning for further learning or application) and helping people close-off their membership in a group that may have developed close relationships and been mutually helpful.

A fourth cluster dealt with establishing role clarity and credibility. The essence of this cluster is letting people know what is expected of them and what the instructor's role will be in the ensuing time together. This fits well with Hunt's (1975) schema of environmental structure. When learners are in doubt as to their role or the instructor's role, or when the instructor's credibility is in doubt, each participant's goals or reasons for attending are in jeopardy. It is as if someone handed them a map but explained that it wasn't a very reliable map and they weren't even sure that it would get them where they were going. The resultant effect on a learning environment is obvious.

The final cluster is one that may be called, "Guarding the Contract." It suggests that participants and instructors set out to define a working relationship and parameters that will define boundaries for working. This cluster suggests that in discussions and other work, participants consistently look to the instructor to guard the contract and boundaries for the group by keeping everyone on topics related to the agreed-upon goals of the course. It too seems quite in keeping with adults' expectations of an instructor and an optimal instructional environment.

It is reasonable to expect that revision of items, and increasing the number of items per component, should result in increased reliabilities of fifteen components to highly acceptable levels. The reliability of 0.19 for the "Shared Feelings" component suggests that the items in that component do not measure the same attribute. Three of the four items had significant but low correlations with the test total (p .05), but only one of these had a significant correlation with the subtest itself. There are obviously problems in the measurement of "Shared Feelings." The low correlations with subtest and total test scores reveal that the subjects' responses to the items were unrelated and that their responses to the "Shared Feelings" component were only slightly related to their total test scores. The problem could be with the people, the items, or both. At any rate, "Shared Feelings" needs a careful examination and reworking or possibly should be dropped from the instrument.

Finally, this study represents an empirical approach to diagnosing the instructional process. The goal is to add evidence and specificity to the extensive body of collective opinion regarding the conduct of adult education. The effort will eventually add to an empirical base for the intuitively logical link between instructor behavior, environmental press, and learner outcomes.

REFERENCES

Aker, George. A Guide for Competency Based Teacher Training in Adult Basic Education, 1974.

Anderson, Gary J. "Effects of Classroom Social Climate on Individual Learning." American Educational Research Journal, 7 (1970), pp. 135-152.

Bradford, Leland. "Creating a Learning Climate." The Laboratory Method of Changing and Learning: Theory and Application, Palo Alto: Science and Behavior Books, Inc. (1975).

Carkhuff, Robert R. "The Contribution of Contextual and Environmental Influence." Helping & Human Relations: A Primer for Lay and Professional Helpers, Vol. I, New York: Holt, Rinehart and Winston, Inc., 1969.

Chamberlain, Martin N. "The Competencies of Adult Educators." Adult Education, 11 (1961), 78-82.

Costin, F. et. al. "Student Ratings of College Teaching: Reliability, Validity and Usefulness." Review of Educational Research, 45 (1971), pp. 511-535.

Cronbach, L.J., Gleser, G.C., Nanda, H., and Rajaratnam, N. The Dependability of Behavioral Measurements, New York: Wiley, 1972.

Davidoff, S.H. "The Development of an Instrument Designed to Secure Student Assessment of Teaching Behaviors that Correlate with Objective Measures of Student Achievement." The School District of Philadelphia, Office of Research and Evaluation, March, 1970.

Egan, Gerard. The Skilled Helper: A Model for Systematic Helping and Inter-personal Relating, Monterey: Brooks/Cole Publishing Company, 1975.

Frey, P.W. "Student Evaluation." Science, 187 (1975), pp. 566-570.

References (continued)

Heath, R.W., & Nielson, M.A. "Performance-based Teacher Education." Review of Educational Research, 44 (1974), pp. 463-484.

Hunt, David E. "Person-Environment Interaction: A Challenge Found Wanting Before It Was Tried." Review of Educational Research, 45 (1975), pp. 209-230.

Hunt, David E. & Sullivan, E.V. Between Psychology and Education, Hinsdale, Illinois: Dryden Press, 1974.

Knowles, Malcolm E. The Modern Practice of Adult Education, New York: Association Press, 1970.

Lewin K. Field Theory in Social Science, New York: Harper & Row, 1951.

McNeil, J.D. and Popham, J.W. "The Assessment of Teacher Competence." In R. Travers (Ed.), Second Handbook of Research on Teaching, Chicago: Rand McNally, 1973.

Mitchell, J.V., Jr. "Education's Challenge to Psychology: The Prediction of Behavior from Person-Environment Interactions." Review of Educational Research, 39 (1969), pp. 695-721.

Moos, R. Evaluating Treatment Environments: A Social Ecological Approach, New York: Wiley, 1974.

Moos, R. and Trickett, E.J. Classroom Environment Scale: A Social Climate Scale (Manual), Consulting Psychologists Press, Inc., 1974.

Mocker, Donald W. A Report on the Identification, Classification, and Ranking of Competencies for ABE Teachers, University of Missouri-Kansas City, School of Education, Kansas City, Missouri, 1974.

Murray, H.A. Explorations in Personality, New York: Oxford University Press, 1938.

Pervin, L.A. "Performance and Satisfaction as a Function of Individual Environment Fit." Psychological Bulletin, 69 (1968), pp. 56-68.

Ragosta, M.N., Soar, R.S., Stebbins, L.B. & Soar, R.M. "Sign Versus Category: Two Instruments for Observing Levels of Thinking." Paper presented at the Meeting of the American Education Research Association, New York, 1971.

Rogers, Carl. Freedom to Learn, Columbus: Charles E. Merrill Publishing Co., 1969.

Rosenshine, B. "The Stability of Teacher Effects Upon Student Achievement." Review of Educational Research, 40 (1970), pp. 647-662.

Rosenshine, B. & Furst, N. "The Use of Direct Observation to Study Teaching." In R. Travers (Ed.), Second Handbook of Research on Teaching, Chicago: Rand McNally, 1973.

Rosenshine, B. & Furst, N. "Research on Teacher Performance Criteria." In B.O. Smith (ed.), Research in Teacher Education, Englewood Cliffs, N.J.: Prentice-Hall, 1971.

References (continued)

Rossman, Mark H. and Bunning, Richard L. "Knowledge and Skills for the Adult Educator: A Delphi Study." Adult Education, 28 (1978), pp. 139-155.

Shavelson, Richard, and Dempsey-Atwood, Nancy. "Generalizability of Measures of Teaching Behavior." Review of Educational Research, 46 (1976), 4, pp. 553-611.

Shulman, L. Study of the Helping Process, Vancouver: Social of Social Work, University of British Columbia, 1977.

Simon, A. & Boyer, E.G. Mirrors for Behavior I, II, III. Wyncote, Pennsylvania: Communication Materials Center, 1974.

Smith, Douglas H. "The Determination of Necessary Competencies for Adult Basic Education Teachers." Adult Literacy and Basic Education, Vol. 1 (1978), pp. 47-56.

Snyder, Robert E. and Ulmer, Curtis (Eds.) Guide to Teaching Techniques for Adult Classes, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1972.

Steele, J.M., House, E.R., & Kerns, T. "An Instrument for Assessing Instructional Climate Through Low-Inference Student Judgments." American Educational Research Journal, 8 (1971), pp. 447-466.

Stern G.G. People in Context, New York: John Wiley & Sons, 1970.

Trickett, Edison J. and Moos, Rudolph H. "Social Environment of Junior High and High School Classrooms." Journal of Educational Psychology, 65 (1973), pp. 93-102.

Walberg, Herbert J. & Ahlgren, Andrew. "Predictors of the Social Environment of Learning." American Educational Research Journal, 7 (1970), pp. 153-167.

Margaret Denis
Ontario Institute for Studies in Education

"INTUITIVE LEARNING AMONG ADULTS"

I. The Purpose of the Study

The purpose of the present study is to document the existence of and to describe the dynamics of the intuitive mode of learning as evidenced among adult learners. While not negating the rational, my focus is on the intuitive. The duality of the rational and the intuitive mode are merely aspects of a whole, just as the warp and the weft are aspects of a whole - cloth. Therefore, when the term, intuitive learning is used in this study, it refers not to a specific kind of learning but rather to that aspect or mode found in every learning process.

II. Methodology

In keeping with the subject of the research, I have elected to follow qualitative research methods of inquiry[1], based on grounded theory, heuristic and intuitive techniques.

There were three major stages in the collection of data:

1) a personal experiment in intuitive learning;
2) non-structured, in depth interviews with sixteen persons selected by means of theoretical sampling;
3) non-structured, in depth interviews with nine adult learners who were self-selected by means of a poster advertisement.

The role of the researcher in the interviews was to clarify and to reflect back the statements of the interviewees. Interviews were tape-recorded and later transcribed verbatim.

Theoretical concepts relating to the existence and the dynamics of intuitive learning were generated from highlighting themes and patterns evident in these three stages of data collection.

III. Results

A. The Experience of Intuition

In relating their experience of intuition, interviewees described it in various but complementary ways. Some focussed on the cognitive aspects of intuition; others described it physiologically. Other views centered on self-awareness, an expression of the unconscious, connections with the

---

[1] A description of these methodologies are detailed elsewhere in these proceedings under a Symposium Abstract titled "Qualitative Research Methods and Approaches", chaired by Professor Virginia Griffin.

Address reprint requests to: Ms. Margaret Denis, Dept. of Adult Education, O.I.S.E., 252 Bloor St. W., Toronto, Ontario M5S 1V6.

environment, or in terms of energy. And a few persons remarked on the unique origins of intuition. From the accounts of their experience, intuition may be described as follows:

> INTUITION IS AN INTEGRATIVE AND HOLISTIC COGNITION BEYOND REASON, A KNOWING GROUNDED IN ONE'S VERY BEING, RISING FROM THE UNCONSCIOUS, THAT IS A FELT AWARENESS OF ENERGIES BEYOND THE SELF.

B. The Intuitive Process

Persons interviewed have identified the following aspects as descriptive of the intuitive process.

Being open, relaxed and in touch with the rhythms of nature makes a person more receptive to the intuitive. This experience is characterized by spontaneity and confusion in its inception; the subject is highly active and is aware, through feelings, of a deep communication and of a dynamic energy coming from the unconscious. The intuitive process, characterized by suddenness rather than continuousness, involves a going inside oneself to experience a dialogical movement between the self and what is not the self. The order of one's experience moves through physical feelings, emotions, images and thoughts. Other accompanying phenomena may be sentient, visual, audial and tactile or psychometric.

C. Intuition and Learning

Persons interviewed had a sense that their learning patterns differed from traditional learning patterns. The interviews provided an opportunity for many to reflect for the first time on these differences. For the most part, these learners had not discussed their manner of learning intuitively, because they felt that it would not be accepted by the "educator" and/or because they lacked the vocabulary or framework with which to discuss it. They spoke of an abiding sense of a power within themselves and yet beyond themselves, or of a trust in their own resources, or of risk and certainty going hand-in-hand as necessary prerequisites for intuitive learning. They spoke of this kind of learning as a dialectic between what is the self and what is not the self, as an energy, or as a cosmic sense of knowledge beyond the ordinary senses or paths of knowing.

They described the process as non-verbal, and non-rational characterized by its unexpectedness, beginning with their own experience, and at some point leaving or suspending rational modes of thought. They cited as examples the intuitive learning of specific skills, of specific facts, of an ease in a certain area, or of some mysterious pull to pursue learning in a certain direction. And finally, they spoke of the ways they used to check out or to confirm either through their own feelings, experience or rational process what they had learned in an intuitive mode.

IV. Toward a Model of Intuitive Learning Among Adults

The following section develops a model of intuitive learning among adults, based on the theorectical concepts which have arisen from the themes recurrent throughout the three stages of the data collection. The skeletal structure of the model is an application of Professor Virginia Griffin's concept of "basic processes" which she developed as part of her research on facilitating adult learning (Unpublished Manuscript, O.I.S.E., Dec. 1975, Jan. 1976). The model is fleshed out by a description of each of the basic processes of intuitive learning.

A. Concept of Basic Processes

Basic processes are of a different order of things than activities, sequential steps, methods or techniques. They are energies, each with their own dynamic, influencing in their own way, the intuitive process of learning. Each of these processes in the learner is going on in some form, at some level of awareness throughout the entire span of a learning project. Most of them are occurring simultaneously or with a high degree of overlap or interrelationship. The importance of a given basic process, the way it develops over time, and its component sub-processes is not an absolute, found in every intuitive learning activity, even with the same learner. There are alternative ways to view all of these elements. During any stage of an intuitive learning activity, what is happening in each of the basic processes interacts with and shapes what is happening in each of the others.

In mathematical language, intuitive learning dynamics can best be described as a "set" of processes. Although each, in turn, can be described, these processes have no intrinsic fixed order of occurrence. The order, as presented here, of the basic processes involved in intuitive learning does not refer to either a quantitative order of time and space or to a qualitative order of significance. It is therefore essential to perceive these various factors as interacting with one another.

B. A Description of the Basic Processes of Intuitive Learning

1. Knowing with unwavering certitude that learning will occur.

This knowledge, though certain, is not clear; it does not include awareness of how or when learning will take place, just that it will take place. In addition to elements of belief and certitude, this knowledge is characterized by a personal conviction which expresses itself further in an expectation that learning will happen.

2. Trusting in one's own intuitions and in the intuitive process.

Just as a person must trust in her/her power of reason, so too (s)he relies on his/her intuitive ability even though such abilities are apparently beyond conscious control or manipulation. Trust levels are usually in direct proportion to the element of risk involved. In intuitive experience the risk seems greater because of the lack of clarity involved. Due to the unexpectedness and seeming capriciousness of the intuitve process, the experience is often disconcerting. A high degree of trust in the process increases a person's vulnerability but simultaneously reduces fear which paralyzes the process.

3. Remaining open to the expected, but more especially to the unexpected.

To be open to the intuitive learning process is to be receptive to the unexpected and to be expansive with regard to the elements, often seemingly unrelated, that one admits into the learning process. Openness involves an initial non-judgmental attitude and a low censorship threshold. Intuitions often result from seeing the connections or relationships between disparate things.

4. Being absolutely honest in action and in reflection.

One of the more serious barriers to the intuitive process is that of self-deception. Intuition demands an uncompromising honesty in seeing and accepting things as they are and not as we would like them to be. Honesty, in this context, refers to the ability to distinguish the differences among wish-thinking, fantasy and reality. The honest person resists the temptation to manipulate or to force the process; (s)he is very clear as to which processes arise from rational efforts and which processes are intuitive.

5. Delineating generic boundaries for the area of learning.

The intuitive learning process begins when a person decides on an area, generic in nature, where (s)he wishes to learn. The extent of the boundaries of the area are relative to the person and/or to the situation. Delineating generic boundaries is concerning ourselves with a general notion of some area about which we want to learn; we are not concerned with what specific steps to take in the learning process because these steps will be unexpected.

6. Reflecting upon and drawing new insight from one's own experience.

Whereas, for children, the intuition is based on spontaneity, in adults, intuition is based on experience as well as spontaneity. Intuition can be strengthened by experience. The richer and more varied one's experience is, in many fields, in many life-times, the more intense one's intuitions can be.

7. Developing a sense of multiple realities.

The more a person fosters various ways of seeing and understanding reality, the richer will be his/her experiences of intuitive learning. Intuitive learning takes place when a person constantly shifts perceptual gears and renders the familiar unfamiliar. Castaneda describes this as seeing rather than looking - "responding to the perceptual solicitations of a world outside the description we have learned to call reality."

8. Focussing attention on the ground rather than the relevant figure in learning; attacking learning obliquely.

To attack intuitions directly is to lose them. So too with intuitive learning. The process is essentially an oblique one which bypasses the usual direct route of learning by objectives. Intuitive learning involves focussing attention on the hidden ground and not on the obvious figure. Hidden ground inevitably leads one to the figure; the converse is not necessarily true. The intuitive learner always seeks out the hidden ground, interplaying the figure and the ground, discovering new learnings.

9. Embarking on a pilgrimage of learning.

To embark on intuitive learning is akin to setting out on a pilgrimage. You don't know how you are going, but you do know *that* you are going and that you will eventually arrive. It is essential to feel comfortable with the wandering. The intuitive learner, ventures out into the unknown without a logical map or plan, without preset concepts or ideas.

10. Developing a sensitive awareness of the proper timing of processes and events.

Rather than an imposition or intrusion at a given signal according to a given plan, timing, in the intuitive mode means an awareness of the rhythms and energies of the situation and a flowing in harmony with these energies. Timing in the intuitive mode refers to a contemplative, poetic sense of time, which cannot be diagrammed on a flow chart. It is the timing that is inherent in things, not superimposed upon them.

11. Suspending and minimizing deliberate conscious rational processes.

If one is to dialogue with the materials, one must not be inhibited by concepts and ideas which, by their very nature, are one step removed from the "materials". In concrete terms this shift in activities involves moving from convergent to divergent thinking, from analytic logical processes to synthetic holistic Gestalt processes, from being active to being receptive. One's consciousness of time is no longer sequential and temporal, but simultaneous and eternal. One's attention is no longer focal but diffused; one's statements are no longer prepositional and causal but appositional and acausal. The important dimension moves from time to space; from the verbal to the visual. Attention to detail becomes attention to the symbolic; perception likewise shifts from awareness of significant order among things to awareness of patterns and relationships.

12. Being aware of and responding to energies outside oneself.

Intuitive learning is being aware of and responding to things at the energy level. In physical terms people speak of this energy as a magnetic pull or a sense of flowing or vibrations. By shifting away from left brain toward right brain activities a person is able to sense these energies; it is through awareness of one's feelings that a person is able to ascertain whether or not they are responding in harmony with the energy being received.

13. Dialoguing with the materials.

The term "materials" refers to all the components of the situation: the human elements, the external environment (social, physical, educational, temporal, spacial, structural), the cultural context, the tools at one's disposal, and the physical materials available. To dialogue with the materials is to engage the depth of one's being with the depth of other beings - be they persons or objects. To dialogue with the materials is to throw away the instruction book and to receive the instructions from the materials themselves. In the dialogue a person accords the materials the highest respect and refrains from imposing on or manipulating them. In return, the materials will reveal their secrets and their energies to the person.

14. Allowing oneself to be led or drawn in a certain direction, surrendering to the intuitive.

Once the dialogue with the materials has been initiated, one realizes that (s)he is being led or drawn in a certain direction determined by the configuration of the elements in the situation. It is not a fatalistic process because the learner continually makes choices to follow this direction. (S)he engages to become something (s)he is not. At the heart of every act of learning, there is this act of surrender, which is, in the last analysis, an intuitive and courageous act.

15. Being aware of and following one's feelings in the intuitive process.

Whereas concepts and words are the language of the rational mode, feelings and sensations are the language of the intuitive mode. There is an inner energy which is felt primarily as a physical sensation and secondarily as an emotional feeling, both having their own rhythm. This inner energy/rhythm seems to correspond to an energy and rhythm exterior to the self, perceived by dialoguing with the materials. Intuition occurs when these two energies merge.

16. Being in touch with the influences and dynamics of the unconscious.

Whether or not a person is consciously aware of it, a continuous dialogue with external energies is carried on. Much of the dialogue is housed in the library of the unconscious where it is processed in an arational manner. A person has access to this unconscious material through dreams or by playfully letting one's ideas, memories, impulses or fantasies rise freely. Connections that rational processes seem unable to make, rise unanticipated and intuitively from the unconscious.

17. Appreciating meaning in synchronicity.

Synchronicity refers to events and happenings closely related in time and space which, upon deeper reflection, have interrelations hitherto unnoticed. It is in the reflection process that the events are perceived as more than mere chance or accidents.

18. Recognizing the giftedness of revelations in the learning process.

Another way of describing intuitions is to see them as revelations which are manifested when we are ready for them. Other common descriptors for this phenomenon refer to insights, sudden illuminations, flashes. Even though one can prepare for the intuitive revelation by engaging in the processes described in this section, the revelation always has a sense of unexpectedness or serendipity about it. The intuitive revelation is a source of learning without reasoning.

V. Critical Review in the Literature

Current literature in adult education neither affirms nor denies the existence of the intuitve mode; it simply ignores this aspect of learning. Jerome Bruner (The Process of Education, 1966) highlighted the need for serious research into intuitive thinking. Seeds of the concept "intuitive learning" can be found in the research from other disciplines. Michael Polanyi writes of tacit knowing (The Tacit Dimension, 1962); Carl Jung (Psychological Types, 1964) presents a well-developed theory of intuition; the literature on creativeity is rich with intuitive data; Freud's theory of the unconscious (The Interpretation of Dreams) and his concept of primary process uphold intuitve learing theory. A physiological basis for intuitive learning is found in the Right Brain-Left Brain studies (Robert Ornstein). Malcolm Westcott's work (Toward a Contemporary Psychology of Intuition, 1968) is a compendium of thought and research on intuition. Parapsychological studies on psychic energy, the writings of Castaneda, readings in Zen Buddhism and Taoism all are concerned with the dynamics of intuitive learning. What others have spoken about but not named, the present study has given a name - intuitive learning.

VI. Implications

The unique contribution of this study lies in its conceptualization of the phenomenon of intuitive learning and in providing a vocabulary with which to discuss the phenomenon. Intuitive learning is that process of acquiring knowledge, skills or actions without recourse to objectives, goals or consciously planned steps.

1. Implications for Adult Learning Theory: Learning theory is extended to reflect more accurately the adult learner's experience; the rational and the intuitive are complementary modes of learning.

2. Implications for the Adult Learner: Intuitive learning is legitimized as a valid, indeed ordinary, mode of learning; adults are provided with a new manner of reflecting on their learning; and adults have the means to increase their ability to learn intuitively.

3. Implications for the Adult Educator: The adult educator can map the processes of intuitive learning operant in the learner, and support the learner in these processes; and new methods and techniques of facilitating learning must be developed in order to meet the needs of intuitive learners.

4. Implications for Research in Adult Education: A new frontier has been established; it remains to be explored; quantitative studies on the phenomenon of intuitive learning need to be developed.

"The last word on intuition is as far in the future as the first word on intutition is in the past." (Westcott, 1966)

ISIS - Interpersonal Skills for Involvement with Seniors: A Staff Training Kit - The Importance of Interactive Evaluation

Ann W. Fales
Ontario Institute for Studies in Education*

Background and Purpose

ISIS - Interpersonal Skills for Involvement with Seniors: A Staff Training Kit, is a multi-media, portable kit, designed to be used without "expert" leaders, to train paid and volunteer staff who work with community-residing, "normal", elderly. It consists of seven modules or units, presented in manuscript form and on audio tape, with accompanying charts, exercise packets, simulation equipment, and self-assessment materials. The content of the units is summarized in Table 1.

Evaluation of the ISIS kit was designed to meet three major goals: 1) to assess the effectiveness of the ISIS kit in terms of the design principles specified during the development phase of the project (i.e., program evaluation); 2) to assess its applicability for use in formal, non-formal and informal learning situations; and 3) to assess the effect of participation in the ISIS learning experience on individual changes in knowledge, attitudes and skills.

The program design principles incorporated the project team's values and knowledge about humanistic, self-directed, experiential adult learning; assessed target group needs for learning related to attitudes and interpersonal skills; and research-based knowledge regarding the process of attitude change. The specific principles were:

1. The kit should be in modular form to facilitate self-pacing and sequencing.
2. Methods should include experiential and didactic approaches in order to facilitate cognitive and affective awareness and change.
3. Methods should respond to learners' expressed preference for group learning but also be useable by individuals working alone.
4. Self-assessment and evaluation should be built into the materials.
5. Materials should be presented through a variety of learning modes to facilitate use with different preferred learning styles, educational backgrounds, reading skill, etc.
6. Materials should relate concepts to the learner's own experience, to facilitate integration and application.
7. Methods and content should model the themes of the kit; i.e., focus on the individual, on learning as positive adaptation, on a holistic view of the individual, on change and loss throughout life, on the various contexts of the individual's life, and on the development of interpersonal skills.

---

* Requests for reprints may be directed to the author at the Department of Adult Education, Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto, Canada M5S 1V6

Table 1: Content of the ISIS Kit

Unit		Content
I	Introduction (manuscript and tape)	Group formation Guidelines for using kit Overview of units and modules Getting acquainted
II	Social World of Older Person (manuscript and tape)	Describes range of social contacts. Learners identify own social world and that of one older person known to them; explore environmental, personal and physical factors which influence one's social world.
III	The Environmental Context (manuscript only)	Provides some statistical background of aging in Canada and Ontario and basic generalizable knowledge about the social psychological nature of aging in western society. Points out that the kit will not deal with this area extensively.
IV	Physical Abilities and Limits (manuscript and tape)	Provides basic generalizable knowledge about physical limits and abilities of older people, brief review of methods of positive adaptation re physical aspects, subjective awareness re the experience of selected kinds of limitations, suggested approaches to minimizing limits and maximizing abilities.
V	Body Image and Function (manuscript and tape)	Links subjective awareness of self as physical being to sources ("reality", others' perceptions, self-perception); to psychological and to behavioural effects. Provides experiences in self-awareness, application to older persons, practice in diagnosing own and others' perception of body and self-image, suggested methods of intervention.
VI-A	Psychological Processes - Personality (manuscript and tape)	Provides background generalizable knowledge on personality characteristics of older people, focusses on characteristics important for positive adaptation; motivation; continuity and change of personality; ideas for application in work setting.
VI-B	Psychological Processes - Learning - Meaning Making (manuscript and tape)	Provides background knowledge re learning ability in cognitive, affective and psychomotor domains; describes importance of reflective learning in older people; provides principles for facilitating meaningful learning; application to self and to individual older person; relationship of learning to historical and contextual factors; ideas for implementation in work setting.

8. Methods and content should present alternative views and teach skills of applying concepts and formulating solutions.

9. Methods and content should emphasize valuing and learning how to learn from experience, and develop skills for helping others use their experience as a basis for positive adaptation.

10. Content included in units should be accurate and, where possible, research-based.

One stated purpose of the kit was that it be applicable by practitioners who worked with older people in a variety of settings and learning situation. Questions related to applicability included: Is the material (content and language), understandable? Is the amount of time taken practical and appropriate? Can the kit be used by groups without a trained leader? Can it be used effectively by individuals learning alone? Are learners willing to participate openly in experiential exercises? With a leader? Without one? Does the self-assessment material provide a useable tool for learners with little or no experience in self-planned learning?

Literature Review

Evaluation specialists have begun to question the appropriateness of simply evaluating the accomplishment of generalizable outcomes (Glass, 1976), have called for attention to process as well as outcomes (Stake, 1967; Stufflebeam, 1969), to recognition of the impact of multiple interactions among variables (Cronbach, 1976), to time series or continuous program evaluation rather than summary, retrospective analyses (Steele, 1973) and to the purposes of evaluation for different audiences (Stake, 1967; Steele, 1973). Cronbach states that the most that can be expected from good evaluation is an accurate assessment of what actually happens in a variety of local situations and the development of explanatory concepts about the events (1976, p. 26). Evaluation of the ISIS project clearly needed the theoretical flexibility provided by these views of evaluation.

Our search of the evaluation literature provided few specific examples which dealt, in an integrated way, with the variety of evaluation needs represented in this study. Evaluations of training in the field of aging deal with training students in formal educational settings (Hulicka and Morganti, 1976); "satisfaction" indexes (e.g., White and Hansen, 1976); and reports of the development of similar training programs (e.g., Thorson, 1975; Wilson, 1972). While some of these included discussion of evaluation outcomes, and, occasionally, of strategies and instruments, most assessed learner satisfaction and/or learner preferences for particular content or method. Greenfest and Bragg (1976) report similar findings in their review of the evaluation literature related to short-term training in the field of aging. Their study and Mezirow and Rose's (1978) evaluation design provided useful multifaceted models.

Methodology

Evaluation of the ISIS kit was "interactive" in that we used: data from one source to inform our understanding of findings from another; continuous program modification; cooperation of participants in the development and assessment of design, methods, materials and content; and attended to the evaluation goals of several categories of audience. Table II summarizes the evaluation and data collection methods.

Participant observation used a structured observation form, multiple observers at each test situation, and taped evaluative discussions. Participant verbal feedback was built in at regular program intervals. Participants were informed that the purpose of the evaluation was to test the program and, although verbal evaluation can be suspect as possibly favourably biased, participants were more willing to make negative evaluative comments verbally, face-to-face with the team member, than in writing on the evaluation forms.

Analysis of the pre- and post-test questionnaire data consisted of calculation of difference scores. Further analysis did not appear warranted due to the existence of a severe ceiling effect. The remainder of the analysis consisted of interpretive and reflective interaction with the various sources of subjective data.

Table II: Evaluation Design

Source	Purpose	Type	Data Collection Method
Groups	1. Design principles 2. Applicability	Objective	Structured observer reports Timing patterns Attendance patterns "Overall Evaluation" by participants Structure of groups Group selection of content sequence Participant characteristics
Groups	1. Design principles 2. Applicability	Subjective	Follow-up discussions, separately with participants, staff leaders, consultants Unsolicited comments from participants Follow-up requests
Individuals	1. Design principles 2. Applicability 3. Changes in knowledge, attitudes, skills	Subjective	Comments re unit content Reports of attitude, knowledge and skill change Verbal feedback re overall satisfaction, unmet needs, discomfort, excitement
Individuals	1. Design principles 2. Applicability 3. Changes in knowledge, attitudes, skills	Objective	Self-report, paper and pencil instrument Self-assessment of present learning needs/interests Pre-post comparisons Open-ended questions Questionnaire items re method, content, language level, difficulty, comprehension

Data was collected from eleven separate trials or "tests" of the kit. A total of 111 participants was involved. The test situations were selected on the basis of: a) heterogeneous or homogeneous representation of target groups; b) heterogeneous or homogeneous staff role; c) four regionally distinct locations; d) types of presentation (e.g., three-day consecutive, eight half-days, four full days); and e) staff-led or "leaderless".

Results and Discussion

Effectiveness of Program Design Principles

1. The principle of facilitating self-pacing and selection of content in personally meaningful sequences provides a useful example of the value of the interactive evaluation process. In the first test, participants' feedback regarding the first exercise indicated that they were uncertain about the value of planning their own sequencing as a group; experienced the self-assessment materials as not useful, threatening and boring; and that working individually interfered with the natural group formation process. They did, however, plan their own sequencing using a natural group formation process. These insights were incorporated in later administrations of the kit. The cumulative experience of the eleven groups supports the value of including provision for self-pacing and sequencing. Of the eleven, two added an extra full day to their scheduled number of sessions in order to accommodate their own pace, and only two chose to complete the entire kit in the sequence provided.
2. Reported usefulness of experiential and didactic approaches varied. Some (particularly direct service personnel) reported significant gains in awareness and understanding from role plays, simulations, etc. Others (particularly administrative personnel) reported frustration with some of the experiential exercises. Comparable differences existed for the didactic material.
3. The kit was not tested with individuals working alone. Individuals who used material on their own found the didactic material, and some experiential material, useful. Groups found tape instructions for working alone distracting.
4. In general, participants a) did not use their own self-assessment data to plan their learning; b) did not value the objective form of self-evaluation as a meaningful representation of their learnings; and c) were resistant to objective evaluation. Participants desired more effective feedback mechanisms to check whether their learnings were "in their right direction", particularly for experiential exercises.
5. Responses to the joint presentation through tape and print were extremely favourable. Individuals reported different specific modes of presentation most helpful. Exercises requiring personal written reflection on experience were found difficult but useful by less well educated persons.
6. Concepts and examples were reported as useful and relevant to participants' experience. Perceived commonalities between own and older people's experience was found useful by some and disturbing by others. Some participants resisted relating personally with aging. The kit material was reported as having relevance for any age group.
7. Participants' comments and observations indicate that the kit does model the six major themes, some more effectively than others. Many of the

experiential exercises can be improved through more explicit articulation of the themes as criteria for effective outcome behaviours.

8. Exercises vary in their effectiveness in facilitating the development of application and problem-solving skills. Participants reported dissatisfaction with their own ability to understand the processes of applying concepts to practice and evaluating the effectiveness of alternative solutions to problems. They valued alternative solutions more as they progressed through the kit. Participants evaluated units differentially in terms of usefulness in facilitating application to practice.

9. Participants could identify and recall principles of learning from experience and generally reported valuing this unit. Several groups suggested that this material be placed early in the kit to provide better background for the learning process of the kit. Participants developed more positive attitudes toward using older people's experience in working with them, but were dissatisfied with the kit in terms of teaching skills of applying such principles.

10. Content was perceived as accurate by experienced staff, field consultants and participants. Complexity of content was criticized in portions of two units. Some research-based information contrary to "positive" stereotypes was resisted.

Applicability

In general, the language level was reported as appropriate. Exceptions were noted consistently in relation to portions of two units. There was general agreement that units needed to be of a more uniform length. Participants were generally accepting of the experiential exercises, including the presentation of a guided fantasy via tape, with and without trained leaders, but were quite resistant to role plays. The emphasis on personal experience and self-awareness was found distasteful by a few participants who felt that such self-disclosure was less acceptable to older participants. Observation suggested that this was not a valid generalization. Self-assessment material provided was not found to be applicable, but the concept of embedding competency probes in the material was supported. There were indications of a need to simplify instructions for exercises, minimize overlapping of tape and written instructions, and provide advance organizers with exercises. In the one test situation where the kit was used without a trained leader, it was evaluated very positively. Test groups with leaders tended to believe the kit would be most effective with a leader.

Conclusions

Evaluation results generally supported the validity of the ten design principles, and provided valuable information regarding sources of success and areas needing modification. Specific suggestions for modifications were available as a result of the extensive interactive evaluation efforts. This method provided a good approximation of the range of values, attitudes, cognitive knowledge, learning preferences and presentation situations which might be expected to exist among the prospective audiences and provided insights as to how the test version of ISIS can be modified to be more effective. Further research is needed regarding changes in practice resulting from participation in the kit.

References

Cronbach, Lee J. "Beyond the Two Disciplines of Scientific Psychology". In Gene V. Glass (Ed.), *Evaluation Studies Review Annual*, Volume 1. Beverly Hills: Sage Publications, 1976. Reprinted from *American Psychologist*, 1975, 30 (2) 116-127.

Glass, Gene V. (Ed.) *Evaluation Studies Review Annual*, Volume 1. Beverly Hills: Sage Publications, 1976.

Greenfest, Michael and Bragg, Stephen. "A Methodology and Design for Evaluating Short-Term Training". Paper presented at the Adult Education Research Conference, Toronto, Canada, April, 1976 (mimeo).

Hulicka, Irene M. and Morganti, John B. "An Undergraduate Concentration in the Psychology of Aging: Approach, Program and Evaluation". *Educational Gerontology*. 1976, *1*, (2), 107-118.

Mezirow, Jack and Rose, Amy D. *An Evaluation Guide for College Women's Re-entry Programs*. New York: Teachers College, Columbia University, 1978.

Stake, Robert E. "The Countenance of Educational Evaluation". *Teachers College Record*. 1967, *68* (7) 523-540.

Steele, Sara M. *Contemporary Approaches to Program Evaluation: Implications for Evaluating Programs for Disadvantaged Adults*. ERIC Clearinghouse on Adult Education, Washington: Education Resources Division Capitol Publications, Inc. 1973.

Stufflebeam, D.L. "Evaluation as Enlightenment for Decision Making". In W.H. Beatty (Ed.), *Improving Educational Assessment and an Inventory of Measures of Affective Behaviour*. Washington: Association for Supervision and Curriculum Development, NEA, 1969, 41-73.

Thorson, James A. *New Wrinkles on Retirement. Final Report on a Model Project: Multi-Media Pre-Retirement Education*. Athens: Georgia Center for Continuing Education/University of Georgia, 1975.

White, Melvin A. and Hansen, David M. "Guidelines for Achievement of Learner Satisfaction in Gerontological Short-Term Training". *Educational Gerontology*. 1976, *1* (2) 193-197.

Wilson, Lola (Ed.) *Report ... Training Institute for Directors of Senior Centres*. Ottawa: Canadian Council on Social Development, 1972.

MANAGEMENT PRACTICES LEADING TO PROGRAM PRODUCTIVITY AND SUSTAINED LOCAL FUNDING, NEW YORK STATE COOPERATIVE EXTENSION, 1976

H. Peter Warnock, Ed.D.[1]
Cornell University

Purposes of Research

The study was concerned with management practices in New York State Cooperative Extension which were associated with successful extension programs and sustained funding from county government. The purposes of this research were threefold. The first, and most important, was to test a few of the more commonly used management practices against two criterion measures of success, i.e. effective programming, (program productivity), sustained local funding. The second purpose was to develop a broad based study of management practices relating to organizational policy development and program productivity. The third purpose of this research was to generate interest in the minds of extension managers and volunteer leaders in the questions being addressed in the study.

Review of Literature

Three distinctly different bodies of organizational research were examined enroute to developing this study. Studies in program productivity in the public sector were reviewed which addressed such variables as cost reduction, service improvement, ongoing control of operations, planning and budget justification, improved motivation, and accountability.[2]

The second group of studies were endeavors explaining the workings of modern day organizations. This research was based on the premise summed up by Leonard Syles who stated, "A kind of Gresham's Law operates... easily researched subjects, although less relevant to most business problems, drive out the more difficult subjects. Equation-building, even where the models are of dubious relevance, will gain adherence at the expense of inpure problems."[3] Examples of landmark research in this area of organizational studies are the works of William Foote Whyte, Michael Crozier, Arnold S. Tannenbaum, Henry Mintzberg.[4,5,6,7]

The third area of research, examined studies relating directly to Cooperative Extension. These kind of studies dealt with such things as effective teaching, job satisfication, leader behavior.[8,9,10]

Setting for Research

The study was conducted in the fall of 1976 and data analyzed in early 1977. At that time, New York State Cooperative Extension had approximately 1,400 employees, 75,000 volunteer leaders, 57 semi-autonomous county organizations and a State-wide budget of 24 million dollars. Fundamental extension programs are in the areas of agriculture, home economics, 4-H youth development, community resource development. New York State is unique amongst the 50 states in that between 60-70 percent of operating funds for county extension organizations come from local government.

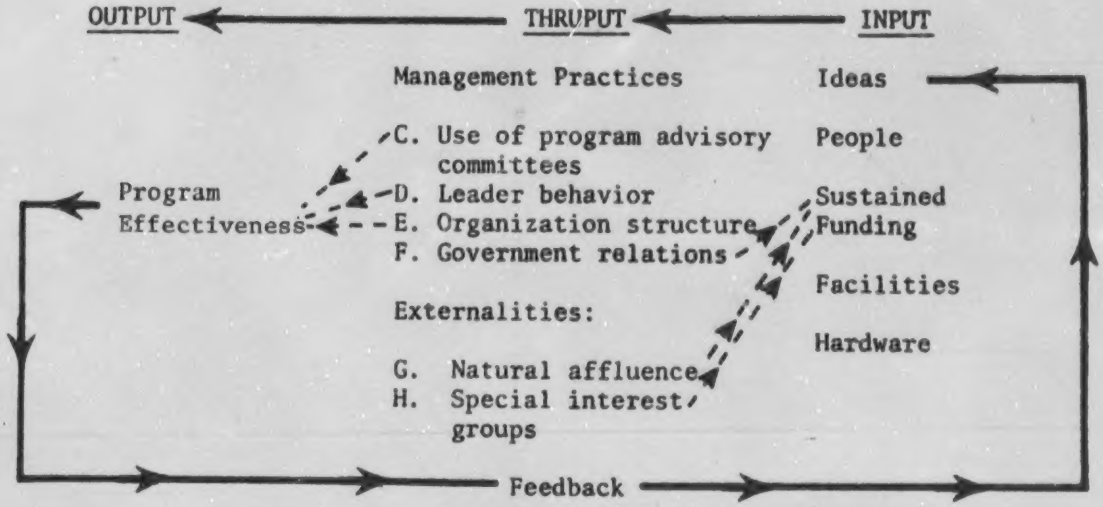
---

[1] Peter Warnock, Ed.D., Extension Representative, Cooperative Extension Administration, 111 Roberts Hall, Cornell University, Ithaca, NY 14853

Research Design

After determining the general direction of the study, extensive thinking and discussion took place with practitioners and research oriented faculty at Cornell University to identify the more appropriate management practices to be examined. Three rudimentary questions were addressed at this stage of the study to exhaust lists of management practices and related variables. The questions were as follows: first, what measures could be used to describe organizational success (dependent variables)? Second, what management practices in Cooperative Extension are believed to contribute to organizational success, (independent variables)? Third, what powerful factors, generally beyond management's control, also could impinge on organizational success (mediating variables)?

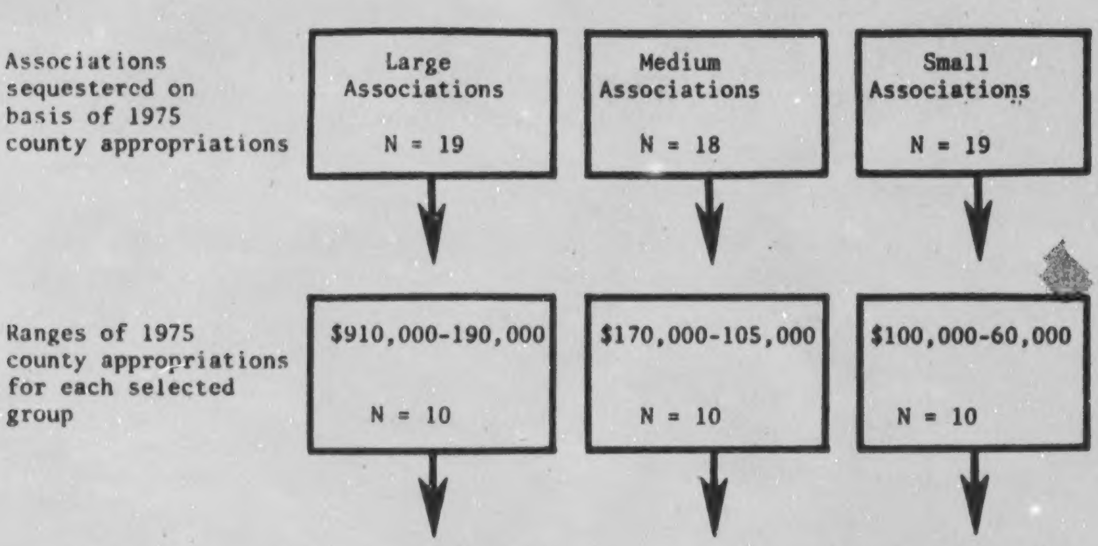
The result of this brainstorming and dialectic are shown below in a cybernetic paradigm of management practices. Inputs, thruputs, outputs were weighed, aggregated and reaggregated. From these manipulations and lengthy discussion with knowledgeable extension faculty, eight of the more important variables were chosen for investigation. Relationships between the variables are indicated with broken lines; each of the eight variables is placed in its functional location within the model; management practices are shown as through-puts were incoming variables are manipulated and external pressures reconciled.


OUTPUT
THRUPUT
INPUT
Management Practices
Ideas
C. Use of program advisory committees
People
Program Effectiveness
D. Leader behavior
Sustained Funding
E. Organization structure
F. Government relations
Facilities
Externalities:
Hardware
G. Natural affluence
H. Special interest groups
Feedback

CYBERNETIC PARADIGM OF MANAGEMENT PRACTICES

Partitioning the Population

Fifty-six Cooperative Extension organizations constituted the study's population. To control for variability within the population, three clusters of organizations were assembled on the basis of 1975 county appropriations. The differences in the means of the three groups were significant at the .05 level. Significant Pearson Product Moment Correlations, at the .05 level, were found between county appropriations and staff size/county population. A stratified random sampling technique increased external validity of the study to generalize to other county organizations in New York State Cooperative Extension; randomnization also mollified stong personological differences in the county organizations.


Associations sequestered on basis of 1975 county appropriations
Large Associations
N = 19
Medium Associations
N = 18
Small Associations
N = 19
Ranges of 1975 county appropriations for each selected group
$910,000-190,000
N = 10
$170,000-105,000
N = 10
$100,000-60,000
N = 10

PARTITIONING THE POPULATION

Sources of Data

A questionnaire was the primary data gathering device, it was returned by 219 respondents for a .977 rate of return. Variables measured with the questionnaire were leader behavior, government relations, use of program advisory committees, influence of special interest groups. The questionnaire was pretested in two organizations and considerable time was spent refining the cover letter which accompanied it.

Official records at the University were reviewed to obtain data on the variables program efficiency, sustained funding, counties' ability to pay (natural affluence). The original research design included a program efficiency measure but it was discarded because of spurious data and other variables which were beyond the control of the researcher.

The third source of data was expert judgements which looked at the variables program effectiveness, organizational structure, use of program advisory committees. In many of the judging exercises high inter rater reliability was found through the statistical test of Kendall's Coefficient of Concordance.

Analyses and Interpretations Drawn From the Study

Five hypotheses were developed at the outset of the study to provide structure to the research. Each of these hypotheses was tested statistically and some results were found which supported the basic assertions. These results are discussed below. The total sample size (N-30) and even smaller numbers in the three randomly selected groups (N-10), militated against finding statistical significance, however, in several instances with the use of Spearman Rank Order Correlation Analyses, significant relationships and/or differences were uncovered. In addition to testing hypotheses, several important deductions were made from the research. These insights came from responses to open-ended questions in the survey, criteria developed by individuals judging program effectiveness and the attempt to holistically compare extension organizations.

Partial Conclusions

1. There was a positive statistically significant relationship between the two dependent variables in the small and medium size organizations.

2. When judging the productivity of informal education programs, effectiveness and efficiency measures ideally should be taken into account. It was unrealistic to use the efficiency measure - as conceptualized in this study. Effectiveness measures, on the other hand, connoted face validity.

3. When studying leader behavior, high consideration and low initiating structure were found in medium and small organizations judged to be high in program effectiveness. Initiating structure was the more powerful predictor of the two.

4. Nine out of ten agent respondents to the questionnaire were committed to working with program advisory committees, but were not using them at high levels of effectiveness.

5. Government relations programs appeared to help smaller organizations garner sustained local funding. In the larger organizations, sustained funding was ostensibly related to a county's ability to obtain funding - but not to its government relations programs.

6. Agent resondents had difficulty identifying special interest groups which opposed their funding from local government; friendly groups outnumbered those perceived to be hostile by 20:1. Moreover, individuals rather than groups were often cited as potential enemies.

7. Organizational structure did not appear to have any effect on the variable program effectiveness.

8. The added complexity of the larger associations reduced judges' ability to evaluate them. Furthermore, management strategies working in small and medium size organizations did not appear to be operating in the larger organizations, rated high on the dependent variables.

Implications From the Research

Subsequent to carrying out this research, and discussing it with knowledgeable extension workers and faculty, the following three theses have been developed. They are stated against a background of increasing pressure for public accountability and decreasing funding at all levels of government.

1. In rural and semi-rural counties, extension organizations in New York State judged to have effective programs have strong sustained local funding.

2. In New York's urban counties, extension organizations judged to have effective programs are not necessarily those which receive strong sustained local funding. In these settings, financial support appears to be more closely associated with a county's ability to pay.

3. Extension associations in urban counties can improve their chances of sustaining local funding by programming in one or more of the following areas.

    A. Economic development, e.g. consumer education, Sea Grant, tourism, commerical horticulture, small business management.

    B. Public policy, e.g. land use, water quality, energy, food policy.

    C. A legislator(s)' "pet" project, e.g. urban gardening, county farm, youth conservation corps.

It is assumed that extension organizations in rural and semi-rural counties also can ameliorate public support by programming in one or more of these areas. Effective programs and public relations efforts are prerequisites to sustaining local funding in all types of counties, however, urban counties must supplement these endeavors by focusing on one or more of the program areas suggested above.

2. Balk, Walter L. Improving Government Productivity: Some Policy Perspectives. London: Sage Publications, 1975.

3. Sayles, Leonard R. "Whatever Happened to Management or Why the Dull Stepchild?" Business Horizons. April, 1970.

4. Whyte, William F. The Street Corner Society. Chicago: The University of Chicago Press, 1943.

5. Crozier, Michael. The Bureaucratic Phenomenon. Chicago: The University of Chicago Press, 1964.

6. Tannenbaum, Arnold S. "Control of Effectiveness in a Voluntary Organization." American Journal of Sociology, July, 1961, Vol. 67, 3346.

7. Mintzberg, Henry. "Policy as a Field of Management Theory." Aix-En-Provence, France: Institut D'Administration Des Entreprises, 1975, 9-22.

8. Aiken, Charles R. "Identification of Procedures Associated with Teaching Effectiveness of New York County Extension Agents," unpublished Ph.D. Dissertation, Cornell University, 1952.

9. Broadwell, George. "Job Satisfactions of Professionals: A Study of the Job Satisfaction of Cooperative Extension Agents in New York State," unpublished Ph.D. Dissertation, Cornell University, 1969.

10. Cunningham, Clarence J. "Dimensions of Leader Behavior." Journal of Cooperative Extension, Winter, 1966, Vol. 4, 223-228.

Mature Students in Higher and Further Education in an Industrial City

Professor G.W. Roderick
University of Sheffield

PURPOSE

The research is designed to answer a number of questions by providing detailed information about mature students[1] in post-school institutions of learning. These questions can be put in such simple terms as:

How many mature students are there?
What trends have occurred in the mature student body during the last ten years?
Who are the students at present in such institutions and what are their social class and educational backgrounds?
How and by what methods do they gain entry to further and higher education?
To what extent are they handicapped by insufficient knowledge of the education system by inadequate education skills and a lack of qualifications?
What range of learning, personal and domestic problems do they suffer from which may inhibit their studies?
What study and career guidance and advice do they receive in their institutions?
Are the courses on which they enter relevant to their needs?
To what extent do they fulfill their original objectives on entering on study?

Information which will provide answers to these questions will, it is hoped, serve to guide us to create communication networks among educational providers in the Sheffield region in order to better publicise educational opportunities among the community, guide us in setting up an advisory service and to provide better support services within educational institutions for mature students.

Practical application

An investigation of mature students at:

12 Adult Centres
4 Colleges of Further Education
The Sheffield City Polytechnic (346 students)
The University of Sheffield (584 students)
A long-term Residential College
Sheffield University Division of Continuing Education

---

[1] Defined as being aged 21 or over on registering for the course being studied at the time of completing a questionnaire/being interviewed.

The students included in the survey are:

(a) Adult Centres and Colleges of Further Education
Mature students attending courses which may lead to study at higher levels
eg 'O' level, 'A' level, City & Guilds courses, training opportunities courses, and a selection of leisure/liberal studies courses

(b) The Polytechnic of Sheffield
Mature students attending:
Degree courses, HNC and HND courses

(c) The University of Sheffiedl
All mature students

(d) A long-term Residential College
All mature students

(e) The Division of Continuing Education
Coalminers and steelworkers attending three-year day-release courses
Students attending the Division's 'Preparatory Study Course for University Entrance'

Methods

(a) A survey of admission records for the period 1975/78

(b) A study of data relating to mature student applications for the academic session 1977/78

(c) A forty item questionnaire providing information on social and educational backgrounds; qualifications on entry; previous employment; reasons for taking up study; academic expectations; career intentions; attitudes and opinions on entry procedures, personal problems, learning problems, advice and guidance and teaching methods

(d) Structured interviews of:

- (i) a random sample of mature students at present in institutions
- (ii) conventional 18+ undergraduates
- (iii) relevant academic staff

Elements of the Research Study

1. Trends in Mature Student Entry

Data required from (a) above:

- (i) Course entered
- (ii) Age of entry
- (iii) Sex
- (iv) Social class of father
- (v) Educational qualifications
- (vi) Occupation immediately prior to entry

143

2. Nature of the Existing Mature Student Body

Data required from (b) and (c) above:

(i) Age at entry
(ii) Sex
(iii) Social class of father
(iv) Occupation immediately prior to entry
(v) Educational background
(vi) Course entered

3. Recruitment and Selection

Data required from (b), (c) and (d) above:

(i) Occupation immediately prior to entry
(ii) Educational qualifications
(iii) Method adopted to gain entry
(iv) Selection techniques and procedures adopted by institutions

4. Learning Difficulties During Study

Data required from (c) and (d) above:

(i) Course entered
(ii) Advice prior to entry
(iii) Advice/guidance during course
(iv) Degree of success of course

5. Attainment of Career Objectives

Data required from (c) and (d) above:

(i) Occupation immediately prior to entry on course
(ii) Course initially entered
(iii) Course in which final qualification taken
(iv) Performance in final assessment
(v) Occupation entered on leaving institution

6. Student Perceptions

(i) Adjustment to student life
(ii) Teaching methods
(iii) Assessment procedures

Review of Literature

There is very little literature available in Britain which relates directly to research on mature students though a great deal, of course, on adult and continuing education. I mention the more well known publications below.

Recurrent Education: A Strategy for Lifelong Learning	CERI	OECD
An Introduction to Lifelong Education	P. Lengrand	Croom Helm
Paid Educational Leave	A. Charnley	Hart-Davis
The Education of Adults: a World Perspective	J. Lowe	Unesco Press

Recurrent Education	V. Houghton & K. Richardson	Ward Lock
Higher Education for Adults: Where More Means Better	W. Perry	Cambridge University Press
The Disadvantaged Adult	P. Clyne	Longman
Learning Later. Fresh Horizons in English Adult Education	Enid & Edward Hutchinson	Routledge & Kegan Paul
Adult Students: Education, Selection & Social Control	E. Hopper & M. Osborn	Francis Pinter
A Degree of Difference	N.E. McIntosh	Society for Research into Higher Education
The Open University & Second Chance Education: an Analysis	N.E. McIntosh & A. Woodley	Pedagogica Europea vo. x, June 1974
Maturity Brings Success	Macquerie University News	New South Wales, March 1976
The Social & Educational Backgrounds of Mature Students	B. Elsey	Nottingham University Ph.D. Thesis, 1977
Results Evaluated by Tertiary Education Research Centre	Eve. M. Barrett	Research & Development Paper, no. 37, University of New South Wales
The Older Undergraduate	Leslie Greagg	Caulfield Institute of Technology, Australia, 1978

RESULTS

A. National

As a background to the 'localised Sheffield study it was decided to gather together certain information relating to universities and polytechnics on a national scale in order to highlight features of the study.

This consisted of:

(i) A brief survey of all mature students (21 and over) in five major 'northern' universities - Manchester, Liverpool, Leeds, Sheffield and Birmingham.

(ii) The numbers of mature students in British universities who entered without 'formal' qualifications.

(iii) The numbers of mature students who entered polytechnics without 'formal' qualifications.

(iv) A study of mature students who entered the five 'northern' universities during the period 1975/78 without 'formal' qualifications.

(v) Academic performance of mature students as compared with conventional 18+ undergraduates.

(vi) The ease/difficulty which mature students experience in gaining employment on graduating and its relationship to age and subject discipline.

Over the past ten years the number of mature students on first degree courses in British universities has grown considerably, both absolutely and as a proportion of the student population. The number of undergraduate students aged 25 or over[1] in 1975/6 on full-time and sandwich courses was 14,397.[2] The actual percentages of mature students as a proportion of the student body varied from 2.2% in the case of the lowest to 19.7% at the highest. By 31st December, 1976, the number of mature students had actually decreased to 13,483. During that period few universities could demonstrate substantial increases in the proportion of their mature students, whilst in the case of 17 universities the proportion of mature students had actually declined.

(i) The five northern universities chosen are all within a radius of 100 miles of each other, are set in similar industrial/commercial complexes and have similar academic faculties. Yet, they have widely differing numbers of mature students. But common patterns emerge:

  (a) The mature students are younger than anticipated - 70% to 85% were under 30, fewer than 10% being over 35.

  (b) The majority are males - proportion varies from 65% to 75%.

  (c) The majority are 'late entrants' ie possessing the minimum qualifications necessary for entry. They were either unable or unwilling to enter university at 18 or 'dropped out' temporarily only to return later. The number of mature students who do not possess minimum qualifications is small, less than 10% of the total mature student body.

  (d) Mature students are found largely in three faculties - arts (approx. 35%), social science (approx. 35%) and pure science (approx. 25%).

(ii) Most universities will consider applications from mature students who are not qualified, but attitudes vary widely. It is extremely difficult to assess the exact number of mature students at British universities who have entered without minimum entry qualifications for often no separate records are kept of such students. Futhermore, it is not possible to compute a national figure as universities differ in the lower age limit at which a student is considered to be mature. Thus, whilst the five northern universities in the study use 21, the Scottish universities and the University of Wales use 23 whereas many other English universities use 25. From figures supplied to the research team it would not be too inexact to suggest an average number of some 15 mature students at each university who have entered without formal qualifications ie a total of 750 out of a total mature student population of some 14,000 (5%).

---

[1] There is no agreed consensus in Britain as to what constitutes a mature student. The tendency has been to use 25 as the age of demarcation but the Sheffield study has adopted 21 as this is now increasingly being taken to define the minimum age of mature students.

[2] Times Higher Education Supplement (17/12/1976)

Various procedures are adopted for the entry of unqualified mature students. Entry to the five northern universities is controlled by a Special Board - the Joint Matriculation Board - which has a special scheme of provisions for unqualified candidates over the age of 21. Some universities have Special Admissions Committees or Senate Matriculation Committees whilst at others entry is at the discretion of the Dean of the Faculty or the course tutor.

(iii) Applicants to the JMB universities, if they are over 21 and lack the minimum entry qualifications, must apply to the Board for permission to enter under the 'special scheme of provisions'. Their application form is forwarded by the Board to the department and university of their choice. They may subsequently be rejected without interview, rejected after interview, be accepted or be expected to pass the Board's use of English paper and/or a special test set in the subject of their choice. This does not follow a formal pattern and has no set requirements or syllabuses, so that it can be adapted to meet the needs and backgrounds of individual candidates.

The record cards of some 1,200 candidates who applied to the five universities in the years 1975/78 have been examined. The results are not available but what is clear is that it is easier to gain entrance to some universities than others and that some departments particularly welcome these mature students. Preliminary findings suggest that 'unqualified' mature students are rather older and have a higher proportion of females than do the 'late entrants' referred to earlier.

(iv) Surveys at Warwick and Lancaster Universities and at Macquarie University in New South Wales indicate that mature students perform rather better on average. Preliminary findings at Sheffield support this view. Hopper and Osborne found that at Reading University and the London School of Economics the academic success of mature students is not so very different from that of 18+ students.

B. The Sheffield Study

Preliminary study of the questionnaires and the evidence from the interviews so far conducted suggest that most of the hypotheses will be confirmed.

(i) Adults taking up study for the first time are often confused and undecided as to what their needs are but find difficulty in obtaining guidance. They also have difficulty in knowing where and at what level to enter the post-school system.

(ii) It is clear that for all of the institutions little advice is given as to suitability of chosen courses or to the further career and job opportunities that these courses might lead to.

(iii) There was considerable measure of agreement among students in all institutions about the need for a pre-entry course of guidance and advice on:

aims of their course and what it entails
study skills and techniques, particularly note-taking and essay writing
the problems to be encountered

(iv) They have no clear perceptions of what is epxected of them and have to learn by their own mistakes - a costly process. Assessment methods are criticised. Merely allocating marks for work done is not sufficient - students are concerned as to how their work has been assessed and how they can improve their presentations. There is also a strong preference for continuous assessment as opposed to formal written examinations.

(v) Most mature students confess to having learning problems, especially related to reading and memorising.

(vi) With regard to universities many students expressed surprise at having been selected. The view in society among adults and intending students is that universities are remote ivory towers for the very elite in society and that they are very difficult to get into. The fact of having been selected, however, does not overcome their fears and anxieties during the initial stages of their studies. Very little positive help is given to them at this critical stage - many confess to having been scared or even 'terrified' at first. Whilst they find staff friendly and helpful on the whole they did not feel they were able to confide these fears in them.

Mature students, at least in initial stages, exhibit a certain air of independence; there seems to be a stubborn desire to meet the challenge of 'standing on one's own feet' and of making it alone as an adult.

(vi) Attitudes and views towards learning problems, teaching methods, the need for advice and guidance may vary according to subject discipline. Preliminary findings suggest that students in the physical sciences and technologies are less critical and are less in need of support than are other students.

(viii) Attitudes of staff to mature students vary widely, but nearly all staff do seem to welcome the presence of mature students in seminars and tutorials as they can be relied upon to make contributions whilst the 18 year olds remain silent.

METHODOLOGICAL PROBLEMS IN INTERPRETING CROSS-SECTIONAL DATA IN ADULT DEVELOPMENTAL RESEARCH

Sharan Merriam
Virginia Polytechnic Institute and State University

Introduction

Adult development and aging and adult education are complementary fields of study. Goulet and Baltes (1970, p. 20) point out the importance of research on adulthood for the formulation of curricula in adult education. Conversely, they note, "adult education will significantly alter the type of age functions to be expected in, for example, life-span research on cognitive functioning in future generations." Birren and Woodruff (1973, p. 308) further underscore the relationship between education and development stating that "education is one of the most important ways a society can intervene to optimize development not only of social roles, but development of all aspects of cognitive and affective behavior throughout the life span."

Adult development and aging is a realtively new area of interest and research for adult educators. The complexity of the term "development" as well as methodological problems in designing research to explore some aspects of development are at once intriguing and discouraging to would-be investigators. After a brief discussion of development and models of aging which at least implicitly underlie any research study, this paper will present the methodological problems inherent in cross-sectional and longitudinal research designs. The paper concludes with an application of some of the methodological issues to a cross-sectional study of Havighurst's developmental tasks now in progress.

Adult Development and Models of Aging

Research in adult development can focus upon a particular stage of growth or upon the process of development itself. Focusing upon a particular stage of adulthood leads to questions of description--that is, how are adults of one age group alike and how can they be distinguished from other groups such as adolescents? Most researchers, however, are interested in the process of development, the patterns of change and stability which characterize the life span. Thus the term "development" for most developmental psychologists involves the notion of progressing from simple to complex behavior, from a less differentiated to a more differentiated state (Troll, 1975). Research in adult development and aging generally focuses upon the observation, description and measurement of changes in behavior over time. Many unanswered ques-surround the notion of change such as the direction of change, the antecedents of change, and the existence of critical periods of growth and development.

The research design of a study that investigates age-related changes in adulthood assumes, at least implicitly, the adoption of a model of aging. Schaie (1973) has delineated three models for age functions which underlie most empirical investigations. The stability model of adult behavior postulates that once maturity is reached the organism remains stable until death.

Dr. Merriam is Assistant Professor, Adult and Continuing Education, AES Division, Virginia Polytechnic Institute & State Univ., Blacksburg, VA 24061.

That is not to say that no changes occur in the variable being investigated. Rather, fluctuation in the attribute or function maintains a steady, constant level over time. A study of crystallized intelligence in which it is hypothesized that the acquisition of new information when equated with old information loss does not significantly deviate from unity, would be based upon this model of aging.

A second model of aging is the irreversible decrement model. This approach assumes that certain functions show a decline from birth until death (number of cells in the nervous system, for example) or that there is growth until a peak performance and from that point on the ability or function declines. Sensory functions and psychomotor speed are two examples. Research based upon this model presents the problems of older subjects always at a disadvantage compared to youth, identifying the "peak performance" age, and separating maturational events from environmental inputs. The third model, decrement with compensation, implies the existence of decrement or decline, but it is not irreversible. The environment offers compensatory influences which may retard, change, or conceal decrement. Research in learning and aging often follows this model.

Models suggested by Schaie and others (Zubin, 1973) provide a theoretical framework for undertaking research in adult development and aging. Any one model can, in fact, generate numerous research questions. The advantages and limitations of various research designs should also be considered by those interested in studying changes in adults over time.

Basic Research Designs and Related Methodological Problems

Research in adult development typically investigates such areas as the existence and nature of stages of development, changes in attitudes, personality, learning ability or coping strategies as adults age. Interest in the process of change is looked at in terms of its relationship to age. Age becomes the independent variable[1] and can be expressed as follows (Kessen, 1960): $R = f(A)$. The response (R) investigated is a function (f) of age (A). Schaie (1965) has proposed a general model for study of developmental phenomenon which expands the simple formula. He suggests that any research design in aging must account for the age of the person being measured (A), the cohort or birth year of that individual (C), and the time of measurement (T). The formula then becomes $R = f\ (A, C, T)$. Age, cohort and time of measurement thus become important considerations in understanding the advantages and limitations in the basic research designs.

Cross Sectional Design. The performances of people from different age groups are measured at the same point in time. For example, a group of 20 year olds, 40 year olds and 60 year olds are tested and their mean scores compared. Two major reasons for using this methodology would be to simply survey differences in people of various age groups. Cultural changes will have had an impact upon different generations and this is a good design for assessing integenerational differences. A second rationale for using a cross sectional design is to estimate or provide hints about developmental sequences which could only be obtained longitudinally. Such estimates can be made tenuously, at best.

---

[1] Wohlwill (1970) makes a case for considering age as a dimension along which change is to be studied, therefore becoming part of the dependent variable.

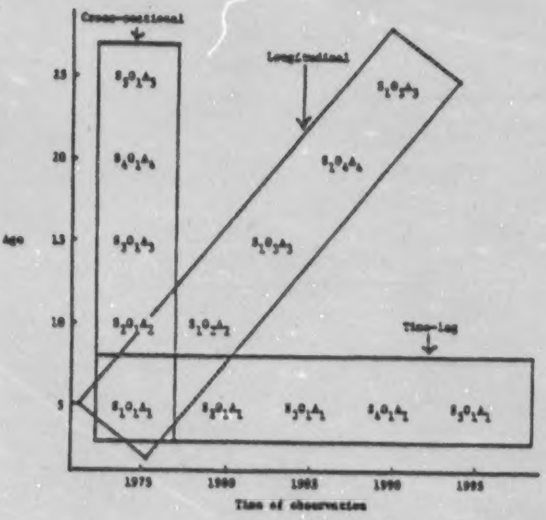
The major problem in cross sectional research is the construing of age differences in performance or attitudes as age-related changes. Much of the early work in intelligence and aging made this erroneous assumption. In the 1930's, for example, Jones and Conrad (Troll, 1975) gave the Army Alpha to 1000 New Hampshire residents between 10 and 60 years of age. Subjects between 18 and 21 scored highest with older respondents scoring progressively lower. It was concluded that intelligence peaks in the early 20's and declines thereafter. A later investigation of the respondents, however, revealed a high correlation between educational level and intelligence score. Subsequent cross-sectional studies have reported peaks at 30 and more recently, 50 years of age (Botwinick, 1967). Misleading trends from cross-sectional studies are vividly illustrated by data on crystallized intelligence. A decline in performance was detected cross-sectionally, but longitudinal data show an actual increase with age (Baltes, Reese and Nessleroade, 1977).

According to Schaie's general development model, cross sectional studies confound age (A) and generation (C) effects. That is, findings in a cross-sectional study may be the result of cohort characteristics rather than age itself. Such factors as differences in education, health care and nutrition, socialization experiences, and the impact of historical events remain unaccounted for in a cross-sectional design.

Longitudinal Design: This methodology compares the performance of a group of subjects with their own performance at another period in time. A group of 20 year olds will be measured again in 10 or 20 years and then again in a specified number of years. This design allows for age-related conclusions to be drawn. However, because only one cohort is being studied, generalizations can safely be made only to people born at that time. Thus, in Schaie's terms, longitudinal designs confound age (A) and time (T) or environmental impact between measurements. Other limitations with this design are: the long term commitment of money, time and personnel needed for such a study; survivor bias, that is, those who survive for successive rounds of study are most likely healthier and more intelligent than those who don't survive; the practice effects of successive testing, and changing interest in research topics.

The Grant Study, a longitudinal investigation of the coping strategies of selected Harvard men illustrates some of the drawbacks of the longitudinal design. Vaillant writes in Adaptation to Life (1977, p. 43) that the study was limited by "the prejudices of its era." Personality projections were made based upon electroencephalogram charts and somatotyping was done. The nascent work of Erikson, Anna Freud, Sullivan and Hartmann was ignored, and questions related to the "vicissitudes of middle life went unasked."

Time Lag Design. A third basic design for study in aging is the time-lag design which compares same age persons from different generations. That is, 20 year olds are measured in the year 1980, 20 year olds are measured in the year 1990 and 20 year olds are measured in the year 2000. This design takes into account age but confounds cohort (C) and environmental impact between times of measurement (T). Below is a diagram illustrating the three basic designs:



S = Subjects
O = Observation
A = Age of Subject

Besides the basic problems of internal and external validity (Baltes, Reese & Nesselroade, 1977) common to all research, studies in adult development and aging are particularly sensitive to following methodological problems (Baltes, 1968):

Selective Sampling. Cross sectional studies have the problem of achieving representative samples for each age group tested. Longitudinal samples are biased in a positive direction. Those who volunteer tend to be above average in intelligence and of a higher socioeconomic status than those who don't. Sampling biases in longitudinal studies impair comparability with cross-sectional studies, and it is difficult to generalize to other cohorts from longitudinal findings.

Suvivor Bias. A given population at birth changes its composition in conjunction with the aging process. The survival rate of cohort members is correlated with intelligence, socioeconomic factors and psychopathology. Successively older groups in a cross-sectional study and survivors in longitudinal studies represent samples unrepresentative of their birth cohorts.

Selective Drop Out. A longitudinal sample measured later may not be comparable to the earlier sample due to selective drop out. That is, if drop out does not follow a random pattern which would be equivalent to attrition of the larger population, results will be biased.

Testing Effects and Instruments. A longitudinal design assumes that repeated measurements with the same sample has no effect on the dependent variable. Practice effects and increased sophistication at test-taking do however, become sources of error in longitudinal studies. The Berkely Growth Study subjects, for example, were tested 39 times within 18 years. One way to deal with testing effects is to select a control group from the same population as the longitudinal sample.

Measurement or test instruments themselves pose an additional problem. The difficulty of finding or designing instruments which measure the same attribute such as intelligence in young adults and older adults is no small task.

Age differences in performance on an instrument may indicate that different attributes are being measured rather than age-related changes of the same attribute. One study of cohort appropriate test material found that performance depended upon vocabulary selection for the items. Thus, 20- and 30-year olds performed better on items entering the language after 1960, and 40- to 60-year olds performed better on items entering the language in the late 1920's (Schaie, 1973). Goulet and Baltes (1970, p. 18) suggest that when an instrument is unavailable to measure an equivalent attribute, cross-linking measurements might be considered. That is, "task A is given at age levels I and II, task B at age levels II and III, task C at age levels III and IV, in order to examine corresponding validities for those tasks that overlap at specific age levels."

Generation Effects. Generation effects hamper the internal validity of cross-sectional designs and the external validity of longitudinal designs. In cross-sectional designs samples vary by age and by generation cohort, and measurement differences thus reflect age and cultural changes. In longitudinal designs the same cohort is measured and thus differences are not confounded by generation differences. On the other hand, changes are specific to that generation only.

Alternative Strategies for Research in Aging

To control for testing and generation effects, several sequential design strategies have evolved in the study of development and aging (Baltes, Reese, and Nesselroade, 1977). Sequential or "mixed" designs are characterized by the simultaneous application of cross-sectional and longitudinal factors. Age changes are assessed at the same time for several cohort groups over a period of time. For example, a group of 20, 40 and 60 year olds are measured and then either the same subjects or different subjects from the same cohort are tested again in 10 years. Using a cross-sequential method, age changes occurring within generations can be contrasted with age differences between generations at a given point in time. The simultaneous analysis of age and cohort differences permits relatively short-term investigations more feasible than a longitudinal design for aging studies. With this design, environmental impact is constant for all age groups thus allowing for differences to emerge which can be attributed to maturational change.

Two other design suggestions for dealing with the limitations of cross-sectional and longitudinal studies are to conduct longitudinal studies for critical periods of the life span, or structure short overlapping studies where longitudinal trends might be detected.

In addition, some writers and researchers have explored the efficacy of collapsing the time constraints of longitudinal studies. Three ideas have emerged: hypnotic age regression perhaps in conjunction with informants such as parents, friends, etc. (Goulet and Baltes, 1970, p. 17); massed practice which attempts to compensate for differential effects of prior experience in developmental research (Goulet and Baltes, 1970, p. 16); and prospective and retrospective methods in which a subject is asked to recall or project perceptions of a specified variable (Nesselroade and Reese, 1973, p. 278).

Some Thoughts on a Cross-Sectional Study in Progress

The author is currently directing a study of Havighurst's adult developmental tasks. A total of 540 adults equally distributed by income, education, age and sex are being asked to rate the importance of the developmental tasks of their age group as well as the other age groups of which they are not a member. There are eight tasks associated with young adulthood, seven with middle age, and six with old age. Each subject is being asked to rank each separate task on a five point Likert scale from very important to unimportant. This will provide data that will show not only how each adult views the tasks he or she is currently undertaking, but also will reveal how each adult looks at past and/or future developmental tasks so that cross-generational comparisons can be made. In light of the issues related to a cross-sectional design, several observations can be made with regard to the Havighurst study:

1) The dimension of development being investigated is age differences in the perception of developmental tasks.

2) Differences in the ranking of tasks by young, middle-aged and older adults will reflect the impact of cultural change on the three age groups. The responses of each cohort will reflect differences in education, socialization, role functions, etc.

3) The sample at each age level is more selective and therefore not equally comparable. It has been especially difficult to get males and females from three income levels who are over 60 years old.

4) The cumbersome wording and/or unclear meaning of a few of the tasks affects the subject's response (for example--"establishing an explicit affiliation with one's age group," a task of later maturity, or "achieving adult civic and social responsibility," a task of middle age).

5) This study varies from a strict cross-sectional design in that subjects are asked to respond to the tasks of their age group and the tasks of earlier and/or later ages. They are thus responding retrospectively as well as prospectively. This technique makes it possible to obtain data from one person at one time which reflects different periods of his or her life. The analysis of data of this study will be in terms of the alternate design strategy of prospective and retrospective estimates. Some generalizations can thus be made about perceived age changes. A prototype of the retrospective-prospective model of analysis can be found in a study of life satisfaction by Back and Bourgue (1970).

In summary, adult educators and others interested in research in adult development and aging need be cognizant of the problems in designing studies which attempt to measure changing individuals in a changing environment. Cross-sectional studies are certainly the most feasible in terms of time and money, and are adequate to measure generational differences. Results of such studies, however, cannot be construed as indicators of age-related changes. Longitudinal studies which do measure age-related changes are difficult to generalize from because they are cohort specific.

Thus, in light of the advantages and limitations of cross-sectional, longitudinal and time-lage designs, it would seem that experimentation with sequential designs and collapsed time strategies in studies of adult development and aging might be well worth undertaking.

154

REFERENCES

Back, W. and Bourque, L.B. Life Graphs: Aging and cohort effects. Journal of Gerontology. 1970, 25, 249-255.

Baltes, P. B., Reese, H. W., & Nesselroade, J. R. Life-Span developmental psychology: Introduction to research methods. Monterey, CA: Brooks/Cole Publishing Company, 1977.

Baltes, P. B. Longitudinal and cross-sectional sequences in the study of age and generation effects. Human Development. 1968, 11, 145-171.

Birren, J. E., and Woodruff, D.S. Human development over the life span through education. In P. Baltes, and K. W. Schaie (Eds.), Life span developmental psychology: Methodological issues. New York: Academic Press, 1973.

Botwinick, J. Cognitive processes in maturity and old age. New York: Springer, 1967.

Goulet, L. R. and Baltes, Paul B. Life-span developmental psychology: Research and theory. New York: Academic Press, 1970.

Kessen, W. Research design in the study of developmental problems. In P. Mussen (Ed.), Handbook of research methods in child development. New York: Wiley, 1960.

Nesselroade, J. R. and Reese, H. W. Life-span developmental psychology: Methodological issues. New York: Academic Press, 1973.

Schaie, K. W. A general model for the study of developmental problems. Psychological Bulletin. 1965, 64, 92-107.

Schaie, K. W. Methodological problems in descriptive developmental research on adulthood and aging. In J. Nesselroade and H. Reese (Eds.), Life-span developmental psychology: Methodological issues. New York: Academic Press, 1973.

Troll, L. E. Early and middle adulthood. Monterey, CA: Brooks/Cole Publishing Company, 1975.

Vaillant, G. E. Adaptation to life. Boston: Little, Brown and Company, 1977.

Wohlwill, J. F. Methodology and Research Strategy in the Study of Developmental change. In L. R. Goulet and P. B. Baltes (Eds.), Life-span developmental psychology: Research and theory. New York: Academic Press, 1970.

Zubin, J. Foundations of Gerontology--history, training, and methodology. In C. Eisdorfer and M. P. Lawton (Eds.), The psychology of adult development and aging. Washington, D.C.: American Psychological Association, 1973.

Occupational Change and Transferable Skills: Implications for Program Design and Research

Robert W. Stump
National Institute of Education

We, The National Institute of Education and the National Center for Research in Vocational Education, have cooperated for the last three years on a project that took a different approach to Educational preparation for Careers. We began with a simple notion. An individual's work experience in the world of work is characterized by the almost universal phenomenon of occupational change. Some people do it more often than others, but almost everyone does it. Our question then became, what educational or training program content is appropriate in preparing individuals for a life that is characterized by occupational change?

To help the reader get into the spirit of our project findings, we suggest a pause to consider the following three questions in the context of personal experience. Key terms may be defined in the way you are most comfortable with.

1. Since starting full time work, how many different jobs have you held?
2. Considering all the jobs you have held, which were the two most dissimilar?
3. In spite of their dissimilarity, were any of your skills and abilities useful in both jobs? Which ones?

1. Occupational Change

With the exception of an early study by Jaffe and Carlton, only in the last decade has good information been available on the extent of occupational change in the U.S. Labor market. In the January 1973 Current Population Survey, the respondents were asked to identify the occupations they held in January 1972. Based on a shift from one of the 441 occupations in the Census classification scheme to another, one out of 11 individuals (6.7 million Americans) reported a different occupation in 1973 from in 1972. In the 1970 decennial Census, Americans were asked what their occupation was in 1965. Almost one in

Additional copies of this paper with full tables and references can be obtained from the author at National Institute of Education, 1200 19th Street, N.W. Washington, D.C. 20208 three reported being employed in a different occupation from the one they had in 1965. When this figure is adjusted for individuals who had left the labor force or were in the armed forces, the proportion jumps to over 40 percent. (Sommers and Eck, 1977) A greater proportion of the young are occupation changers, up to 50 percent of those under are 30. However, they do not have a monopoly on the practice. Fully one in four (25%) of the men and women between the ages of 50 and 59 reported a different occupation.

While the amount of change from one year to the next or from five years before may be substantial, change in itself may not be significant. What about the magnitude of the change, at least in terms of the occupations held? The 1970 Census data groups each of the 441 occupations into one of thirteen major occupational groups, such as professional, technical and kindred, clerical workers or craft workers. When individuals changed from one detailed occupation to another, do they also move into a different major group? The ratio of those changers leaving the major group to those staying in the group tells a story. For professional men and women, the chances are fairly even that a move will be to an occupation that is still in the professional group. This pattern is the exception rather than the rule. Managerial workers are four times (males) and seven times (female) as likely to move to another major occupation area when they change. In sales occupations, the chances are 25 to 1 for women and 10 to one for men that they will move out of a sales-type occupation when they move. Male craft workers are twice as likely to move out of the craft group, while women craft workers are five times as likely to move out than to stay in a craft occupation. (See Table 1 for data on females)

In almost every case except professionals and female clerical workers, the chances of making a major change when moving to a new occupation are greater, often dramatically so. At the same time, we realized that studying mobility with categories of occupation titles and industry designation even at the most detailed Census level would not be helpful for planning educational and training programs. Training imparts knowledge, skills and abilities, so we wanted to understand the composition of mobility and training needs in these terms as an aid to educational program planning.

2. Transferable Skills

The questions posed earlier for reader reflection became a central part of one approach to finding out what are the skills and abilities that are required by a variety of occupations, i.e., transferable. We postulated that if more occupations require certain skills and abilities, the more transferable these individual capabilities would be. In the fall 1976 and spring 1977 we held a series of nine meetings in non-randomly selected cities throughout the country and invited non-randomly selected representatives of employers, labor unions and training programs to talk with us about transferable skills. Their responses to these initial questions provided grist for a day's discussion of whether such skills and abilities existed, what they are, and how might they be used by individuals they train, hire or promote. A composite list of their responses is presented in table 2. The loosely defined categories of intellectual/aptitudinal, interpersonal and attitudinal were afterthoughts and are intended to reflect the participants' judgment that more than skills, narrowly defined, are useful for several occupations.

Another approach was to search the literature for reports of other research efforts to identify skills and abilities that are common to a variety of occupations. We found several approaches. A series of job analyses by the Canada Employment and Immigration Commission resulted in the lists of generic skills and abilities presented in tables 3 and 4.

The similarities among the lists generated by our meetings, by the research in Canada and by similar efforts in the U.S. of Neeb, Cunningham and Pass, and of Mecham and McCormick and of O'Neil confirmed our hunch that some skills are applicable to a variety of occupations, and the skills are identifiable through an analysis of occupational requirements that could be simple and/or quite detailed and complex.

3. Some Conceptual Notes

We continually confronted ambiguous and sometimes conflicting ideas associated with terms such as skill, behavior, attitude, etc. Is a skill the ability to do something, or the actual doing? How about the idea that skill implies level of proficiency? What is observable in training and/or job performances.

No solution to these difficulties will be acceptable to everyone. If it were, there would be no confusion. Nevertheless, we tried to be explicit in what we mean by some of the key terms. The key objective of training and the critical element in jobs is performance or behavior. A trained individual or a worker is first and formost able to perform the duties of the job. Thus, we begin any examination of job or training needs with a consideration of the observed or required behavior, i.e., what does the person do. When behavior is observed, several components of the behavior can be identified and inferred to contribute to behavior. At the general level, we consider these to be knowledge, skill and attitude. Graphically represented in Figure 1, behavior (or performance) can be seen as a triangle whose three sides, knowledge, skill and attitude, are all required for one to be able to behave or perform. Just as there is no traingle without all the three sides, we suggest that there is no performance without all three individual components. Although not central to our current discussion, levels of performance could be analyzed in terms of the adequacy or correctness of the individual's skills, knowledge or attitude.

Therefore, skill is an underlying component of behavior, a "human capacity or potential that resides within individuals". (Pratzner, 1978, p.23) Knowledge is the information needed to be able to perform. It can be within the individual or outside and accessible to him or her.

Attitude represents the value dimension of behavior and decides to do or not do the task and how well it is to be done.

Our discussion of transferable skills with the employer representatives clearly concluded that all three dimensions of performance are transferable and important to being able to perform in a variety of situations. Similarly, some of the other research studies were concerned with combinations of knowledge skill and/or attitude as the components of behavior common to a variety of occupational situations.

These distinctions have some importance for training programs whose objective is to prepare individuals for specific jobs and, more importantly, for a life in the world of work that will include occupational changes. An illustration from the Generic Skills Project of the Canada Employment and Immigration Commission will help develop this perspective.

In a series of surveys from 1973 to 1976 workers in 49 occupations and supervisors in 28 of them were asked to identify the skill requirements of the occupations. (Correlations between the two groups exceeded .95). The occupations tend to be the skilled and semi-skilled type and clustered into 10 occupational families. The skill requirements studied were Generic Communications, Generic Mathematics, Interpersonal, Reasoning and Science. (their notion of skill would be performance or combinations of skill and knowledge with attitudes assumed in the terms outlined above). Among the Generic Communications Skills, for example, reading forms seems to be pretty universal both within each family and across all the families. Making oral presentations is not important to many occupations within nor across the families, except for foremen and supervisors. From these surveys, reading, conversing listening and to a lesser extent writing are very important to almost all the occupations studied.

Generic Mathematics skills show the need for arithmetic within and across the families. This is less true for geometry and intermediate mathematics. As expected, however, occupations in the engineering technologists family rely heavily on the entire range of mathematics skills. Thus, within the area of generic mathematics skills, the skilled and semi-skilled occupations show varied requirements.

There seems to be very little transferability of the generic science skills within and across the families surveyed with one exception. To "set/test Hypotheses" is needed in all or mostly all occupations within each of the families and across all families. This performance refers to the systematic scientific method of inquiry and problem solving.

A comparison of these three performance areas offers another insight. As the requirements progress from reading and simple mathematics to more advanced mathematics and to science skills, the component of knowledge increases, i.e., the amount of knowledge required to perform is greater. At the same time, the applicability of these performances to lots of jobs within the families and across the families decreases. The implication is that bodies of knowledge are perhaps less transferable, i.e., applicable to few occupations than the skills used in or needed by a variety of occupations.

We do not want to imply that knowledge is no essential. Indeed it is. Rather some knowledge seems to be less transferable across jobs. It may be, however, that the possession of or ability to access knowledge is an important key to advancement to higher level jobs.

Training and education programs can use this information to:

(1) understand the differences between the knowledge and skill content of the training and their applicability to specific jobs and related occupations;

(2) examine the skill capacities that are exercised and developed in the course of training as they will be useful on the specific jobs and related occupations;

(3) consider the possibility of focusing on skills as an object of assessment (testing) as distinct from assessing knowledge acquired;

(4) use the similar skill requirements of training programs and occupations as a linchpin for integrating various training programs or knowledge based academic curricula.

Our sense is that many job specific and more general education and training curricula do not recognize these distinctions, focus more on knowledge acquistion and thus have an unnecessarily narrow understanding of the applicability of the training in the world of work. This perspective, in turn, is communicated to students who feel restricted in assessing what they are able to do and the occupational fields for which they may be qualified, even though they may not be "trained" in them. Indeed, if the patterns of major occupational group change outlined earlier are accurate, people are more versatile than might be expected. Employers probably recognize this, but perhaps educators do not.

4. Additional questions

If the logic of the considerations above is accurate, several needs emerge. We might consider these additional areas for inquiry and thoughtful planning.

1. Patterns of occupational change should be looked at not in terms of occupational titles and industries, but rather with an eye to uncovering the human performance requirements (knowledge, skills and attitudes) that are consistent across a variety of occupations.

160

2. Ways of allowing students the opportunity to apply their skills and knowledge in a variety of situations should be explored in all educational training programs. When such applications are possible, trainers should point out to students the similarities of the performance requirements.

3. The process of transfering performance ought to be more closely examined and better understood. It remains a mystery why some students can deal with a variety of situations with similar requirements and why some cannot. Perhaps there are sets of skills, knowledge and attitudes that facilitate transfer of performance and it is not enough to simply point out the similarities.

Figure 1

The Components of Performance

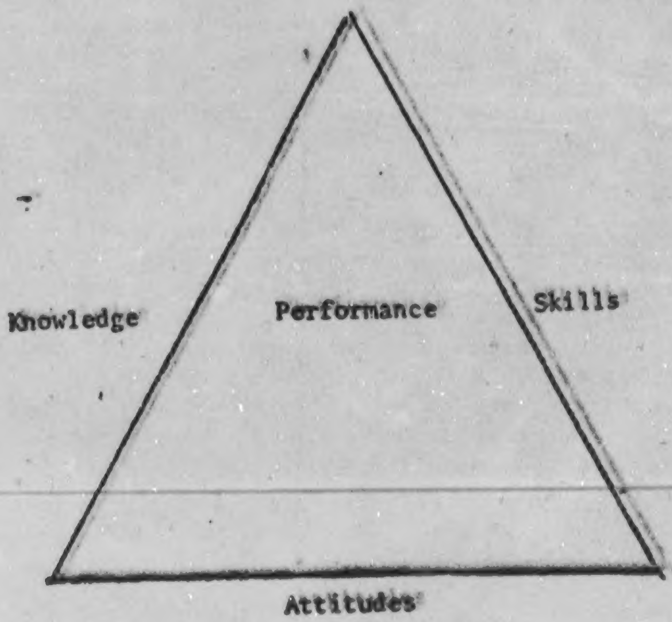


TABLE 1

Percent Distribution by 1970 Status of Persons 16 Years Old and Over Who were Employed in 1965, by Major Occupations and Sex Groups in 1965

1965 Status	Status in 1970				
	Not in labor force, dead, Armed Forces	Same detailed Occupation	Different Detailed Occupation		Ratio of Different Group to Same Major Group
Female			Same major Group	Different Major Group	
Professional, Technical and Kindred	28.4	54.9	8.5	8.2	1.0
Management and Administration	29.0	45.3	3.3	22.4	6.8
Salesworkers	35.4	40.6	.9	23.1	25.7
Clerical Workers	31.4	43.6	16.6	8.4	.5
Craftworkers	28.2	47.8	3.9	20.1	5.2
Operative, ex. Transport	32.8	45.9	10.8	10.5	1.0
Transport Operatives	21.8	51.5	2.2	24.5	11.1
Labores, ex. Farm	32.6	31.4	2.1	33.9	16.1
Farmers and Farm Managers	38.6	31.0	.6	28.9	48.2
Farm Laborers	54.2	22.5	1.2	22.1	18.4
Service Workers	35.1	43.2	6.7	15.0	2.2
Private Household	37.8	44.2	4.4	13.6	3.1
All Occupations	32.3	42.1	12.3	13.3	1.1

TABLE 2

Composite List of Transferable Skills Identified by Conference Participants[a]

Intellectual/Aptitudinal	Interpersonal	Attitudinal
Communicating (44)	Working with, getting along with, or relating to others (28)	Dilligence, or a positive attitude toward the value of work (11)
Problem solving (17)	Managing, directing, or supervising (13)	Receptivity/flexibility/adaptability
Analyzing/assessing (15)	Empathizing, or being sensitive to others	Determination/perseverance
Planning/layout (14)	Teaching, training, or instructing	Acceptance/appreciation/concern for others
Decision making (13)	Counseling	Responsibility
Creativity/imagination/innovation	Motivating	Willingness to learn
Problem identification/definition	Gaining acceptance, or building rapport	Ambition/motivation
Managing ones own time	Helping, or cooperating	Self-confidence
Basic computation	Cultivating cooperation	Self-discipline
Logical thinking	Selling	Pride
Evaluating	Accepting supervision	Enthusiasm
Ability to relate common knowledge or transfer experiences	Delegating	Patience
Coping with the labor market and job movement	Instilling confidence	Self-actualization
Understanding others	Team building	Assertiveness
Synthesizing		Honesty
Marshalling available resources		Loyalty
Accommodating multiple demands		Reliability
Judgment		Risk taking
Foresight		Compromising
Trouble shooting		Kindness
Job awareness		
Mechanical aptitude		
Typing		
Accounting		
Implementing		
Self-understanding, awareness, actualization		
Situational analysis		
Assessing environments/situations		
Understanding human system interactions		
Organizational savvy		
Conceptualization		
Generalization		
Goal setting		
Controlling		
Quantitative thinking		
Dealing with work situations		
Finance		
Tool usage		
Bookkeeping		
Artistic ability		
Business sense		
Tolerance of ambiguity		

---

[a] Items are listed in approximate order of frequency within each category. Most frequently mentioned items are followed by a figure in parenthesis to indicate relative frequency; thus, "Communicating" was mentioned about 44 times as often as "Tolerance of ambiguity."

Source: Wiant, A. A. Occupational Change and Transferable Skills: The Employers' Viewpoint, Columbus, Ohio: The Center for Vocational Education, Forthcoming.

ONE WAY TO PUT NUMBERS ON THE EDUCATIONAL NEEDS OF PEOPLE IN AN ORGANIZATION, IS THERE A BETTER WAY?

Richard E. Young, Extension Evaluation Specialist
and
Donald B. Meehan, Okanogan County Extension Agent, 4-H
Cooperative Extension, Washington

Introduction

During the 1978 Adult Education Research Conference a symposium "Processes in Determining the Educational Needs of Adults" was included. One focus of the symposium was on the development of methods to quantify educational needs. The presiders, William Dowling and Douglas Smith, traced eleven studies done by Ohio State adult education graduate students from 1970 to 1978.

A study by O'Neal[1] in 1977 was described as using the most recent way of quantifying the in-service needs of a group of adult professionals. In addition, O'Neal created a method for quantifying the level of agreement among groups at varying hierarchical levels in an organization. His respondents were employees of the Georgia Department of Agriculture.

By coincidence, we were involved at the time in a study[2] designed to assess the in-service needs of faculty in Cooperative Extension in Washington. The procedures which we had already begun to use allowed us to use the O'Neal procedures as the foundation for the quantification techniques we employed.

In this paper we'll compare what we did with what O'Neal did in quantifying (1) in-service need and (2) agreement among hierarchical levels. Finally, we'll solicit input from you regarding ways to improve the procedures.

The Studies Compared

Quantification of In-Service Need

Both studies presented respondents with a list of tasks. O'Neal's were "tasks performed at the Georgia Department of Agriculture"; Meehan's were tasks "in the area of program evaluation." Both studies asked respondents to rate both competence in the task and importance of the task on a four point scale. Adjectives used for specific values were as follows:

Reprints: Write to Young, 323 Ag Phase II, Washington State University, Pullman, WA 99164

Adjectives

Value	O'Neal	Meehan
4	High	Very High
3	Above Average	High
2	Some	Moderate
1	Little or No	Low

Both studies quantified in-service need (ISN) by squaring the importance score and dividing by the competency score. Thus the formula:

$$\text{ISN Score} = \frac{(\text{Importance}^2)}{\text{Competency}}$$

The actual calculations differed, however. O'Neal calculated mean scores for all respondents (and for groups of respondents) for importance and for competence on each task, then applied the formula. Meehan, using SPSS computer programs, used each individual's responses to create, for each individual, a new variable (ISN) for each task.

Subsequent use of the In-Service Need Score also differed. O'Neal assumed that any ISN Score of 4.0 or lower indicated no in-service need. As can be seen in Table 1, an ISN Score of 4.0 is a reasonable cut off point where the rating for importance is higher than the rating for competence. Meehan did not use this cut off point; he ranked all of his tasks by importance, by competence, by ISN Scores and by ISN Weighted by Agreement, then contrasted highly ranked items with those ranked low as he discussed his findings.

Table 1. In-Service Need Scores for All Combinations of Ratings of Task Importance and Competence

Importance Rating	Competence Rating	ISN Score
4	1	16.00
3	1	9.00
4	2	8.00
4	3	5.33
3	2	4.50
4	4	4.00
2	1	4.00
3	3	3.00
3	4	2.25
2	2	2.00
2	3	1.33
2	4	1.00
1	1	1.00
1	2	0.50
1	3	0.33
1	4	0.25

Quantification of Agreement Among Hierarchical Levels

O'Neal postulated that support for inclusion in an in-service education program would be greatest for those tasks on which there was agreement among persons at various levels in the organization. Meehan agreed. But the means of quantifying the agreement differed.

O'Neal's hierarchical levels were employees, supervisors and administrators. His agreement index was obtained by summing the absolute differences in mean ISN Scores among the three groups for each task. His formula was:

$$\text{Agreement Index} = \left|(E_{ni}-A_{ni})\right| + \left|(E_{ni}-S_{ni})\right| + \left|(A_{ni}-S_{ni})\right|$$

where:

E_{ni} = Employees' ISN mean score
A_{ni} = Administrators' ISN mean score
S_{ni} = Supervisors' ISN mean score

As can be noted; the smaller the agreement index, the greater the agreement. Here is where some confusion exists. Young left the AERC symposium understanding that two rankings of tasks were then created--one for ISN Scores (with largest ISN Score ranked first), and one for Agreement Indexes (with smallest index ranked first). He understood that the ranks were then added for each task and that the sums were then ranked. This process would have thus placed equal weight on ISN Score and on agreement. O'Neal, in his methodology chapter (which we did not have at the time we did our own calculations), says about his application of the agree-ment index, "If a large number of tasks were rated with high ISN indicator mean scores, the agreement index was used to further limit the range of tasks which should be given priority in planning in-service education programs..."

In any event, we used O'Neal's formula and then tried applying what Young understood--thus giving equal weight to agreement and ISN. The results were not reasonable. We felt it was not feasible to place that much weight on agreement. Then, too, we had four levels--county agents, county chairpersons, state specialists, and the administrative/supervisory group, which required the tedious process of manually making seven calculations (6 subtractions between pairs of groups and an addition of the differences obtained). So we searched for a number which would be relatively small (reflecting our feeling that agreement should have a minor influence) and which could be added to the ISN Score (that is, the larger the agreement measure number the greater the agreement).

As a result of using analysis of variance to test for differences among the four groups, we realized that we had two numbers for each task that were measures of disagreement. One number was the sum of squares between groups and the other was the mean sum of squares between groups. Both of these numbers had two disadvantages. First, they were quite large in comparison with the ISN Scores which ranged from 1.93 to 6.84; second, the numbers measured disagreement rather than agreement. The sum of squares

167

would have one other disadvantage if the calculations were to be applied in other situations--it is influenced by the number of groups; the mean sum of squares is not.

To correct for the above disadvantages, we decided to use the reciprocal of the mean sum of squares. This provided a number which was in the correct direction; that is, it measured agreement rather than disagreement and thus could easily be added to the ISN Score. But the resulting figure was so miniscule as to be meaningless. To solve this problem, we took the square root of the mean sum of squares as the denominator for the reciprocal. This seemed reasonable since by taking the square root we were returning a number already squared to its original form. And the numbers we obtained from the resulting formula,

$$\text{Agreement Weight} = \frac{1}{\sqrt{\text{MSSB}}}$$

ranged from .152 to .897

The size of these weights seemed fairly reasonable to us, so we added each weight to that task's ISN Score to provide what we termed "In-Service Need Weighted by Agreement." As mentioned earlier, Meehan ranked the various ratings to enhance his discussion. The difference in rankings between the unweighted and the weighted ISN Scores was minor. As a matter of fact, the greatest change in rankings was one of seven places (there were 38 tasks), and fourteen tasks were ranked the same in both lists.

A Request for Your Help

As we carried out these procedures, we were uneasy about the calculation and interpretation of both the ISN Scores and the Agreement Weights. We wonder if you share our perplexities? And, if you do, whether you'd be willing to help resolve them?

About ISN Scores

The exponential nature of the ISN Scores caused us concern. We believe adult educators would agree that a task rated as most important, but where competence is lowest, should be considered as one for which the in-service need is greatest. But is it 16/9 greater than where importance is rated 1/4 less and where competence is the same?

If you share this perplexity and would like to contribue to a possible resolution, please respond to the top part of our instrument--the last page of this paper.

About the Agreement Weights

We have confidence in the procedures we used in arriving at a number that does measure agreement among groups. Our concern is with the size of that number in relation to the In-Service Need Score. In other words, does the Agreement Weight influence the ISN Score adequately? Our feeling is that it probably has too little an effect. But we also hypothesize that there might be considerable disagreement among adult educators on this point.

What was the relationship between Agreement Weights and ISN Scores? ISN Scores ranged from 1.93 to 6.84 with an average of 4.26; Agreement Weights ranged from .152 to .897 with an average of .406. Thus the average Agreement Weight was about 10% (actually 9.5%) of the average ISN Score.

So we have two questions: (1) Should agreement among groups be considered along with in-service need as priorities are established for educational programs in an organization? And if so, (2) How much influence should agreement have?

You can help answer these questions by responding to the second part of the instrument.

We thank you for your interest and your help.

---

[1] Carleton O'Neal, "In-Service Education Needs of Employees of the Georgia State Department of Agriculture" (unpublished Ph.D. dissertation, The Ohio State University, 1977).

[2] Donald B. Meehan, "An Assessment of Program Evaluation Needs of Washington State Cooperative Extension Service" (unpublished Master's special problem, Washington State University, 1978).

YOUR RESPONSE TO THE FOLLOWING WILL BE GREATLY APPRECIATED.

In-Service Need Score Calculations

The table below shows the results of applying the O'Neal formula (square of Importance divided by Competence). Only one set of adjectives is included for simplicity. Using the combination of Very High Importance/Low Competence as a base of 100, what relative weights should the other combinations be given? You may use negative numbers for some combinations if you wish.

Importance	Competence	ISN Score	Your Judgement
4-Very High	1-Low	16.00	100
3-High	1-Low	9.00	___
4-Very High	2-Moderate	8.00	___
4-Very High	3-High	5.33	___
3-High	2-Moderate	4.50	___
4-Very High	4-Very High	4.00	___
2-Moderate	1-Low	4.00	___
3-High	3-High	3.00	___
3-High	4-Very High	2.25	___
2-Moderate	2-Moderate	2.00	___
2-Moderate	3-High	1.33	___
2-Moderate	4-Very High	1.00	___
1-Low	1-Low	1.00	___
1-Low	2-Moderate	0.50	___
1-Low	3-High	0.33	___
1-Low	4-Very High	0.25	___

Agreement Weight Concerns

Do you feel that the benefit from including an agreement factor in measuring in-service needs in an organization is worth the cost necessary to calculate that agreement factor? _____YES; _____NOT SURE; _____NO

If you answered YES or NOT SURE above, about what percent os an ISN Score should the agreement weight be? _____percent.

Please return to:

Richard E. Young
323F Ag Phase II
Washington State University
Pullman, WA 99164

If you'd like a summary of responses to this instrument, give us your name and address:

____

____

170

Principles of Adult Learning Scale

Gary J. Conti
Spoon River College[1]

Introduction

A significant portion of the adult education literature endorses the collaborative teaching-learning mode as an appropriate method for assisting adults in the learning process. Despite the extensive attention given to this mode, there are few research studies evaluating the effectiveness of the learning principles of the collaborative mode. Such empirical studies have been hindered in the past by the lack of an adequate instrument to measure the degree of practitioner support of the collaborative mode.

The major purpose of the present study was to develop and validate an instrument capable of measuring the degree to which adult education practitioners accept and adhere to the adult education learning principles that are congruent with the collaborative teaching-learning mode. The collaborative mode was defined as a learner-centered method of instruction in which authority for curriculum formation is shared by the learner and the practitioner. The items for the instrument were based on adult education principles that are characteristic and supportive of the collaborative teaching-learning mode and which were culled from the literature in the field.

Much has been written in the past two decades about the growing accumulation in the field of adult education of a unique body of theory and knowledge. Bergevin (1967) and Jensen, Liveright, and Hallenbeck (1964) concur that an appropriate body of adult education knowledge has gradually been assembled. Houle (1963) and Knowles (1970) point out that adult education has become increasingly sophisticated and specialized. While agreeing with these observations, Farmer (1974) adds that in order for adult education to advance in its professionalization, this accumulated body of knowledge must be capable of utilization by practitioners in their work.

A large volume of this accumulated body of theory and knowledge subjectively advocates the collaborative mode as generally the most appropriate method for facilitating adult learning. In order to test this belief, it was assumed that this method must be identified by an instrument substantiated by actual in-class observations. Since the collaborative mode is a learner-centered approach which strives to encourage the learner to seek the maximum amount of trust, self-direction, and responsibility, it is similar to the actions which Flanders (1970) describes as encouraging student initiating actions. Therefore, the items developed for the instrument were linked theoretically to the Flanders Interaction Analysis Categories (FIAC) as an external criterion for systematically assessing practitioner behavior.

Therefore, although adult education is in the process of developing its own distinct body of theory and knowledge, the degree of its acceptance by practitioners and its value, validity, and reliability have not been tested. As a prerequisite to such studies, this research led to the development of an instrument for measuring the degree of practitioner support of the learning principles related to the collaborative teaching-learning mode. Observations using the FIAC were used to measure the congruency between the practitioners' expressed beliefs and their actual, observable classroom behavior.

---

[1] For reprints write: Spoon River College, Rural Route One, Canton, IL 61520

Resume of Related Literature

Although there are various modes of instruction (Blaney, 1974), a significantly large portion of the literature in the field of adult education generally supports the collaborative mode as effective and appropriate for teaching adults. The roots for this mode run deep in adult education's history and continue to prosper today.

Support for the underlying principles of the collaborative mode can be traced through the writings of several prominent adult educators. Lindeman (1961) linked Dewey's ideas for active learners to adult education and stressed learner participation by building on past experiences. Beregvin (1967) discussed the democratic nature of adult education, and he and Kidd (1976) highlighted the importance of learner-centered education. Houle (1972) defined education as a cooperative art and developed a comprehensive curriculum model for its implementation. Knowles (1970) discussed the need for adult learners taking the responsibility for their own learning through self-directed inquiry. Knox (1976) has focused on the process of facilitating adult learning and on the process of evaluating continuing education activities. Freire (1970) focused on problem-posing educational techniques to assist the oppressed in raising their level of consciousness. While each of these educators mix the educational ingredients somewhat differently, all combined them in formulas that articulate a comprehensive philosophy supporting the collaborative mode. Their writings can therefore be culled to compile a pool of adult learning principles for the collaborative mode.

Instrument Construction

The items in the instrument, the Principles of Adult Learning Scale (PALS), are based upon the body of theory and knowledge which is advanced in the literature by prominent adult educators who support the collaborative teaching-learning mode. In order to form items for the instrument, these general and theoretical principles from the literature were reworded in behavioral terms compatible with realistic experiences of practitioners. One-half of the items were stated positively so that their action was congruent with the learning principles of the collaborative mode. The actions of the other half were antithetical to the collaborative mode. The items were randomly arranged within the instrument.

A modified five point Likert scale was used as a continuum for recording practitioner responses. Those taking the instrument were asked to respond to the frequency with which they practice the actions described in the items. Responses which were congruent with the collaborative mode were assigned a high value while those which were antithetical were assigned a low value.

Methodology

The field research of this study consisted of establishing the validity and reliability of the items in PALS. Although it is customary to first test for reliability, this study addressed validity first in order to elicit help in better sophisticating the items and to increase the discriminating power of the items. The research design controlled for construct, content, and criterion-related validity, reliability, social desirability, and congruence of interpretation of the instrument's items.

The construct validity of the items was established by the testimony of juries of adult educators. The first jury consisted of three adult education professors[1] from Northern Illinois University who analyzed the items, commented on the validity of the constructs in the items, and suggested improvements for various items. The second jury consisted of 10 professors[2] with a high degree of visibility in the field of adult education, with geographic dispersion throughout the country, and with philosophical heterogeneity. These professors were asked to testify to the validity of the construct in each item.

The content validity of PALS was established by field-tests with adult basic education practitioners in full-time public school programs in Illinois. The field-testing was divided into two phases. Phase 1 consisted of three field-tests to identify items that discriminated between supporters and nonsupporters of the collaborative mode. After Phase 1 had produced an instrument with potentially discriminating items, Phase 2 was conducted. This phase consisted of field-testing the instrument with 57 practitioners in six programs. Two programs were in a large metropolitan area; two were in medium size cities; and two were in small, rural communities. The scores from the practitioners in all six programs were pooled and analyzed. Since the items had been drawn from the literature supportive of the collaborative mode, an individual's total score was used as the criterion measure of his/her support of the collaborative mode. It was assumed that items which were valid and representative samples of this mode would contribute significantly to the total score and would correlate positively with this criterion measure of total score. Therefore, content validity was determined by Pearson correlations which measured the relationship between each individual item and the total score for each participant.

Criterion-related validity was established by comparing the scores on PALS of those who scored two standard deviations either above or below the mean in the Phase 2 field-testing to their scores on the Flanders Interaction Analysis Categories (FIAC). The FIAC scores were determined through actual classroom observations. The FIAC was selected as the external criterion because it is a validated system for measuring initiating and responsive classroom actions and because the actions described in Flanders' definition of initiating are highly congruent with the characteristics of the collaborative mode. To link these instruments, the national jury members were asked to judge the action in each item as either initiating or responsive. The scores derived from actual observations were used to evaluate PALS concurrent validity and to assess the degree to which accepting a mode and practicing it are congruent.

---

[1] Drs. P. Cunningham, J. Niemi, and R. Smith.

[2] Drs. G. Aker, G. Darkenwald, D. Dutton, M. J. Even, S. Grabowski, M. Knowles, A. Knox, J. Peters, K. Rockhill, and D. Seaman.

The reliability of PALS was established by the test-retest method. This measure of the stability of an examinee's performance on the instrument was conducted after Phase 2 of the field-testing with a group of 23 adult basic education practitioners in Chicago. The same form of the instrument was readministered to these practitioners after a seven day interval, and their scores were compared by means of a Pearson correlation.

The research design also controlled for social desirability and congruency of item interpretation by practitioners. A social desirability score was calculated for each item by having those who scored two standard deviations either above or below the meanin Phase 2 of the field-testing judge the desirability in other people of the trait described in each item. A nine point scale was used (Edwards, 1957), and mean scores were used to calculate each item's social desirability value. During the same visitation, these practitioners were interviewed to ascertain their interpretations of 10 randomly selected items from PALS.

Findings

Interpretative and statistical data were gathered which established the reliability and validity of PALS. The construct validity of PALS was established by the testimony of two juries. Each jury reviewed the items, made suggestions for improving the items, and judged the type of action inherent in each item. The input from the local jury was used to revise items, and the testimony of the natural jurors was used to compute the statistical values for the construct validity of PALS. At least 78% of the national jurors ruled that each item's concept was congruent with adult education learning principles associated with the collaborative mode. Likewise, the majority of the national jurors concluded that the positive items in PALS were associated with initiating actions and the negative items with responsive actions. In addition, the national jurors suggested minor re-wordings to strengthen the validity of weak items.

The content validity of PALS was established by field-testing. In Phase 1, 43 practitioners at three different sites were tested. Data from item analyses and information from group discussions were used to improve the instrument after each testing. Information gathered during this phase of the field-testing was used to greatly refine the instrument.

In Phase 2, the same form of the instrument was administered to 57 practitioners in diversely different full-time programs. The scores from these field-tests were used to assess the content validity of each item. The Pearson correlations calculated to evaluate the relationship between each individual item and the criterion measure of total score indicated that 25 items were significant at the .001 level, eight at the .01 level, seven at the .05 level, and four at the .10 level. Of these 44 acceptable items, 24 were positive, and 20 were negative.

Criterion-related validity was confirmed by comparing the scores on PALS to the Flanders Interaction Analysis Categories (FIAC). Both instruments measure initiating and responsive actions. Eighty percent of the available group that had scored two standard deviations either above or below the mean on PALS were observed, and their classroom behaviors were evaluated by means of the FIAC. Pearson correlations between PALS and each of the three possible FIAC ratio scores of teacher response ratio (TRR), teacher question ration (TQR), and pupil initiation ratio (PIR) showed a positive correlation of .85 (TRR), .79 (TQR), and .82 (PIR). These high correlations statistically confirmed that PALS consistently measures initiating and responsive constructs and that PALS is capable of consistently differentiating among those who have divergent views concerning these constructs.

The FIAC ratio scores also confirmed the existence of a high degree of congruency between professing to support a teaching-learning mode on PALS and actually practicing behaviors characteristic of that mode in the classroom. Chi square scores for the three FIAC ratio scores for the group which scored two standard deviations above the mean on PALS were significant at the .001 level. Two of the chi square scores for the low scoring group were significant at the .05 level. The teacher response ratio, however, was not statistically significant. This ratio is an index of the teacher's tendency to react to the ideas and feelings of the student, and it is possible that this ratio was inflated for both groups by the large amount of individualized learning practiced in the observed adult education classrooms.

The reliability of PALS as a stable measure for measuring the degree of an adult education practitioner's support of the collaborative mode was established by the test-retest method using the final 44 item form of PALS. The Pearson correlation for the 23 practitioners in the sample group yielded a reliability coefficient of .92.

A social desirability score was calculated for each item in PALS. Items with a rating of 2.0 or less were considered to be non-neutral and judged as socially desirable. Nine items were rated as socially desirable. Since eight of the items had high content validity values and since the social desirability literature lacks definitive research findings, these items were retained in the instrument with the caution to potential users to consider the implications of these eight ratings before implementing the instrument.

Individual and small group interviews were conducted with the practitioners who were observed to determine the congruency with which the items were interpreted. By means of open ended questions, the practitioners were asked to express their interpretation of the item's content and to clarify terms or concepts which they introduced into the discussion. As a result of these interviews, the researcher concluded that each of the participants had interpreted each of the items in the intended manner.

Implications

This study produced a reliable and valid instrument, which is rooted in the adult education learning principles of the established literature, that is capable of identifying the degree to which practitioners support and adhere to the collaborative teaching-learning mode. This 44 item summated rating scale has potential uses in empirical studies and as a diagnostic tool for those with definitive philosophical views concerning the collaborative mode.

PALS can be used in empirical studies to assess the credibility of the theories professed in the literature. If the collaborative mode is as appropriate for helping most adults to learn as its proponents claim, then learners exposed to this mode should show significant learning gains. Empirical studies to test the effect of the collaborative mode on student achievement can be designed with PALS serving as the instrument for identifying the experimental and control groups. These studies could examine the relationship of the teaching-learning mode to such variables as learning orientations, cognitive styles, most appropriate range of directness/indirectness, and situational factors. These situational factors could include subject matter, instructional objectives, learner goals, and educational settings such as programs for General Educational Development testing, English as a second language, adult basic education, or competency-based education. If positive relationships are found, PALS could then serve as the mechanism for the compatible matching of distinctive teaching styles with specific learning styles and situations.

PALS could have numerous diagnostic uses by those who have a firm philosophical commitment to the principles of the collaborative mode. It could serve as a tool for targeted staff development by uncovering cluster areas of concepts around which in-service training activities could be planned for either group sessions or individualized learning projects. PALS could also serve as an assessment tool for indicating to learning resource directors needed areas for collecting materials. For an administrator PALS could serve as a personal professional development assessment tool and as a tool for identifying areas of commonalities and differences concerning views on teaching methods between him/her and the staff. In addition, the learning principles in PALS could be compared to the literature from either child or adolescent education to factor out possible generic principles applicable to learning regardless of age.

Summary

PALS is a reliable and valid 44 item instrument which can be completed rapidly. Its reliability was established by means of test-retest. Construct validity was confirmed by a national jury of adult education professors. Content validity was established through field-testing in full-time public school programs. Criterion-related validity was confirmed by identifying the initiating and responsive actions in the items in PALS and then by comparing scores on PALS to scores on the Flanders Interaction Analysis Categories. In addition, the variables of social desirability and congruency of item interpretation were examined.

PALS has potential empirical and field use. It might serve as the measurement device for segregating experimental and control groups in a wide variety of research studies related to learning efficiency in specific teaching-learning modes. Also, since the instrument consolidates many learning principles widely advocated in the literature, it might be used in several ways by practitioners.

References

Bergevin, P. A philosphy for adult education. New York: The Seabury Press, 1967.

Blaney, J. Program development and curricular authority. In J. Blaney, I. Housego & G. McInstosh, A monograph on program development in education. Victoria, British Columbia: Education-Extension Center for Continuing Education, The University of British Columbia, 1974.

Edwards, A. L. The social desirability variable in personality assessment and research. New York: The Dryden Press, 1957.

Farmer, J. A., Jr. Impact of "lifelong learning" on the professionalization of adult education. Journal of Research and Development in Education, 1974, 7, No. 4 (Summer), 56-67.

Flanders, N. A. Analyzing teaching behavior. Reading, Mass.: Addison-Wesley Publishing Company, 1970.

Freire, P. Pedagogy of the oppressed. New York: The Seabury Press, 1970.

Houle, C. O. The inquiring mind. Madison, Wis.: University of Wisconsin Press, 1963.

Houle, C. O. The design of education. San Francisco: Jossey-Bass Inc., 1972.

Jensen, G., Liveright, A. A., & Hallenbeck, W. Adult education: outlines of an emerging field of university study. Washington, D. C.: Adult Education Association of the U.S.A. 1964.

Kidd, J. R. How adults learn. New York: Association Press, 1976.

Knowles, M. S. The modern practice of adult education. New York: Association Press, 1970.

Knox, A. Helping adults to learn. In R. M. Smith (Ed.), Adult learning: issues and innovations. DeKalb, IL.: ERIC Clearinghouse in Career Education, 1976.

Lindeman, E. C. The meaning of adult education. Montreal: Harvest House, 1961. (Originally published, 1926.)

RELATIONSHIP OF PROGRAMMER'S PLANNING ORIENTATIONS TO PROGRAM DEVELOPMENT

Joy H. Dohr, Joe F. Donaldson, Mary Marshall, University of Wisconsin-Madison

Most literature and research on adult education program planning has dealt with influences of students, society, and the educational institution on programming. Less work has dealt with the programmers' planning orientations and with comprehensive analysis of the ways or procedures used for making decisions in program development. This paper synthesizes three studies based upon a theoretical framework of a continuum of programmers' orientations and raises questions as to (1) methods for investigating programming, (2) hypotheses concerning the beliefs and/or practices that occur within adult education settings, and (3) the nature of additional research which may answer specific practice questions.

Since each of these research operations is in progress, the intent is to present the theoretical model developed, with illustrations from findings and preliminary analysis about results. The studies identify and present selected, but not all possible orientations or programming elements. Program orientation in all cases is a variable related to some other subject of primary research interest.

THEORETICAL FRAMEWORK Program development is being viewed on a continuum from a predetermined, concrete linear orientation to an exploratory, abstracted holistic orientation. (By linear is meant a direct process, orderly and step-by-step as in a Tyler model.) The continuum is a conceptual framework representative of various patterns of elements involved in programming and on which different adult education program models, such as Tyler, Houle, Knowles, Boyle, Lippitt, Friere, etc., can be analyzed and evaluated. The orientations that are possible are not considered discrete phenomena. Programming is viewed as an open system and involves policy decisions concerning a particular educational experience. Programming is a dynamic and complex process requiring a conceptual framework that accommodates various combinations for decisions.

The theoretical framework exhibits different philosophical positions and approaches of the programmer: behaviorist, essentialist, perennialist, pragmatist, and existentialist. The continuum reflects approaches taken toward known, partially known, or unknown situations, such as in continuing legal education where new tax law is being transmitted, or programs on energy problems which are only partially defined, or value clarification programs where much of the specific situation is unknown. The continuum reflects an orientation by the programmer as to whether content is selected as an end or as a means to some further end. Different timing for decision making is also apparent, from a priori to that of an extended nature. For example, in the predetermined linear program, decisions are reached in a vertical, sequential manner, and primarily before program activity begins. In exploratory programming, decision making may occur in a parallel and spiral manner and continue before, throughout, and after the actual learning experience.

The social interaction of programmer and participant and the quality of this interaction are also considered. Does the planning group establish program policy or does the group's work legitimize the programmer's plan?

FOR REPRINTS contact the authors at the Department of Continuing and Vocational Education, 112 Teacher Education Building, 225 N. Mills, Madison WI 53706.

© 1979 Mary Marshall, Joseph Donaldson, Joy Dohr

178

The continuum concept of programming has been interpreted by others in different ways. Bernstein's[1] curriculum model of educational transmission involves concepts of "classification" and "frame." He uses the two concepts to determine the structure of curriculum (what passes as valid knowledge), of pedagogy (what is valid transmission of knowledge), and of evaluation (what is valid realization of knowledge by the participant).

A continuum also underlies Boyle's[2] categorization of three different programming approaches. One approach is "informational," which is simply the exchange of knowledge between educator and adult participant. Examples might be a telephone answering program, a media program, or a question-answer session on one topic. The second is an "institutional" approach which reflects more complex decisions than informational and has a single discipline focus with a known body of knowledge being shared. The decision making for the program is structured in a linear manner with objectives, learning experiences and evaluation. Boyle's third approach is a "developmental" orientation. Characteristics are that content selection is organized around a problematic situation; it may be disciplinary with various perspectives taken into consideration or interdisciplinary, and a direction for the program may or may not be initially identified but later evolves within the program. The structure for decision making is lateral rather than vertical representing a broader planning effort.

Eisner and Vallance[3] also discuss basic conflicts in priorities of curriculum form and content. They suggest five orientations to curriculum: (1) as the development of cognitive processes, (2) as technology, (3) as consummatory experience or self-actualization, (4) as social reconstruction-relevance, and (5) as academic rationalism. If one returns to the philosophical positions suggested on the theoretical framework we are presenting, a parallel of these five orientations may be seen.

Methodology 1 The first application of the conceptual framework is to answer the question "what is the program approach taken by an adult education institution, by its administrators, campus and field programmers, and citizen council members?" The aims are (1) to identify the particular way or ways professionals or citizen members believe an extension organization should act toward a given problem, and (2) to apply their approach(es) to the major research question--criteria people rate as important in judging Extension's effectiveness. The concepts utilized come primarily from Boyle's framework, omitting the institutional approach.

A "neutral" situation is described on the questionnaire, one that will presumably allow for the operation of either the informational or developmental approaches, the two chosen which are believed to be sufficiently different in program method and goal to discriminate between persons' beliefs.

The Informational/Content Acquisition approach represents the linear view and a philosophy that knowledge resides in the institution or "teacher"--that knowledge is given, presented and received. In this approach, the emphasis is on cognitive rather than affective knowledge. Problem solving/Developmental is the other approach, concerned with participant contribution to the process, knowledge as a means rather than as ends, and where both goal and method are determined by the community of learners (alone or in cooperation with the educator).

A survey was mailed to 250 subjects in a north central state during winter 1978-79: 50 each of extension administrators (campus, statewide, area levels), extension specialists on campus, extension area programmers, extension county council officers (representing 1800 persons throughout the state), and state senators and representatives. A 91% return from four of these five respondent groups permitted analysis only from an internal perspective, rather than the internal/external to extension view.

In the survey a realistic problem situation was presented (how to program educationally on the "energy crisis"). Perception, not factual knowledge, was sought on four factors: (1) purpose of adult/continuing education, (2) source of knowledge, (3) educator and participant roles, and (4) method or technique utilized. Items considered to be legitimate activity for extension as an educational institution were judged by a panel. A set of these items was selected for inclusion, representing either the informational orientation or the developmental orientation. Respondents rated each item on a five-point Likert-type scale according to how "essential" they felt each was for the problem. Total scores on each dimension yielded a numerical index.

An internal consistency check was made through the use of a confirming question: identifying the perceived source of the problem presented. These seven checklist items were drawn from energy surveys and judged by an expert panel to represent an appropriate response, given one or the other programming approach. If ratings are high on the Informational items, meaning that "information exchange" is the "correct" approach, one would expect the respondent to note "lack of information" of some sort to be the source of the problem. Likewise, an expressed Developmental/Problem Solving approach could be expected logically to identify "attitude, values" or something other than information alone to be the source.

It appears, upon initial analysis, that there is no single continuum contrasting these views, but two continuua where each of the separate approaches may be scaled from high to low. Operationally, this allows for scoring on two sets of items, one Informational, the other Developmental. Scoring the responses places each respondent into one of four quadrants A-B-C-D. Each represents a unique position or approach the individual has about the situation and action to be taken.

A: high developmental, high informational. Here is high attention to the given problem, suggesting that the problem lies beyond but includes information exchange, that attitude as well as practice change are valid educational goals.

B: high developmental, low informational. This quadrant is interpreted to suggest an orientation toward community problem solving, attention to how participants (rather than the institution or educator) define and seek solutions. Information may be used, but knowledge alone is not seen to solve the problem.

C: high informational, low developmental. This quadrant contrasts B. A high use of information, information as answering the problem, the authority of the institution and the educator ("teacher" is appropriate terminology) are also characteristic.

D: low informational, low developmental. Two ways of looking at this quadrant are possible. One is that the individual responding scores consistently low on questionnaires, or that the given situation is inappropriate for this organization. Marginal comments by respondents suggest the latter. Extension could handle this problem, but it is probably best left to others.

Findings 1 Preliminary data analysis reveals an overwhelming leaning toward the developmental approach, suggesting that (1) designated groups in the extension system under study believe that the "energy crisis" is an undefined or relatively unknown situation, (2) professionals and council members believe extension should take a developmental programming approach.

180

While the data were skewed toward the developmental side, the informational continuum had a normal curve, with the division about half and half. That is, those high on the developmental scale were equally divided on the use of information: high application, low application. A small, but identifiable segment felt neither developmental nor informational approaches were pertinent; the problem is not extension's.

Methodology 2 The second application has been to research content selection for university extension programs. What factors relate to unversity extension program position on a disciplinary-interdisciplinary continuum? Programmers' planning orientations have been used as one of many interrelated factors suggested to relate to a program's position on this continuum.

By the criteria established for this specific study, position depends upon the number of disciplinary contents employed in the program and on the level of synthesis achieved among the various contents. (Synthesis occurs when program content becomes a whole, different from its disciplinary parts.) This study defines DISCIPLINARY programs as using content identified with a single discipline, while INTERDISCIPLINARY ones synthesize content of several disciplines. For example, a geometry course would occupy the disciplinary position. A program in which a dietician and economist jointly present a paper describing the least expensive way to balance a diet would occupy the interdisciplinary position. Contents identified with economics and with dietetics have been synthesized.

Planning orientations and beliefs provide a base for developing conjectures about where programs will be positioned on the continuum. Programmers with linear orientations select content for its intrinsic educational value (as noted earlier) -- for transmission to and mastery by participants. A program outcome is participants taking this mastered content for use in their lives. Programmers' beliefs about how mastered content should be used give us a hint about where a program is positioned on the continuum.

Some programmers with linear orientations believe content should be used only in specific situations. It can be recalled or replicated under conditions similar to those under which it was taught. Use is precise, routine, unchanging. Because this content is not readily transferred to other situations, its use is specific. Content can also be used to solve problems defined by certain fields of study and professions. This is problem solving by experts who understand theories and techniques of a field and apply these to problems defined by that field. These two uses of content are called "specialist uses."[5] When programming with specialist uses, content generally is selected from one discipline, the one which defines circumstances for replication or defines problems to be solved using its theories and techniques. Thus, programmers who have linear orientations, who believe content should be used in specialist ways, tend to plan programs positioned more toward the disciplinary end of the continuum.

Other programmers with linear orientations believe content should be used to enrich experiences and broaden understanding. Mastered content can be used to add meaning to present stimuli. For example, "transpire" means more than "happen" to those who have mastered Latin content. The meaning of "breathe across" is added. Past learnings which cannot be recalled or replicated are associated with present experiences and enriched by these associations. These contents can also serve as stencils people look through to interpret their circumstances and the happenings around them. These stencils are to be cut from the fabric of basic disciplinary theory. These uses of content are called "generalist uses."[6] When programming with generalist uses in mind, content is usually selected from several disciplines. This is true because generalist uses are broad. They are supposed to expand meaning, not add precision as specialist uses do. They impart broad and not limited, in-depth understanding as specialist uses do. Therefore, programmers who believe content should be used in generalist ways tend to select program content from several disciplines.

Programmers with developmental orientations tend to design programs positioned more toward the interdisciplinary end of the continuum. Those with developmental orientations generally belong to one of two schools of thought: pragmatist or existentialist. Pragmatists address and solve problems of their social environments, using information from many sources in the process. This information may be identified with several disciplines. Whether interrelationships will be developed among these contents or whether synthesis among contents will be achieved depends on the problem and the solution reached. Programs designed using pragmatist ideas will generally be more interdisciplinary than disciplinary.

Existentialist programs are meant to help people find themselves or meaning of and for their lives. Because life's meaning cannot be categorized into separate disciplines, existentialist programs use content identified with several. Further, existentialist programs tend to be interdisciplinary -- synthesis is achieved. But synthesis is achieved by individuals as they look through content into themselves. Synthesis is not a product of instructor's planning or group problem solving.

By expanding upon the linear orientation and using the developmental orientation as defined, these four relationships are suggested. They are simplistic because they are meant to reflect pure types. Yet few educators espouse one belief system at the total expense of others. The relationships, however, do suggest directions we may expect programmers to go in content selection, if we can determine which beliefs and orientations they favor.

Case study was employed in this research. Programs considered were noncredit activities offered by a university extension system in a north central state. Program nominations judged to span the disciplinary-interdisciplinary continuum were obtained from six program area chairpersons. These programs were then placed on the continuum by a panel of judges who used documentation, including tape recorded statements, program leaflets, presented papers, etc.

Findings 2 Preliminary findings indicate an unexpected preponderance of programs offered with content mastery in mind. It appears that extension offers more content acquisition programs than developmental programs, despite extension's espousal of the problem solving approach. Preliminary findings also indicate that the suggested relationships between programmer's orientation and program disciplinary-interdisciplinary continuum position may not apply in all cases for extension. Several programs offered for content mastery and specialist uses were also more interdisciplinary than disciplinary. This appears to have resulted from programmers meeting unique needs of participants who, as practicing professionals in the case of professional continuing education, deal with problems requiring in-depth understanding of theoretical frameworks and techniques of several fields.

Methodology 3 The third application of the conceptual framework is to research programmers' orientations and the participants' goal orientation on creative attitude and creative problem solving. Is there a significant difference in the observed creative attitude and problem solving approach depending upon the programmer's conceptual orientation? Is the interaction of the programmer's orientation and the participants' goal orientation significant in observing change of creative attitude and problem solving approach?

In this study the programmer's orientation is based upon a set or composite of factors and qualities that were presented in the theoretical framework. The pattern of these factors and the decisions made regarding their quality would identify whether the programmer's orientation is at the linear or exploratory end of the continuum. The participants' goal orientations are also identified on a continuum as to specific and nonspecific goals. Criteria for determining the goal orientations are based upon the writings and research of adult motivation in adult education by Houle[7], Scheffield[8], Boshier[9], and Maslow[10].

An experimental design was used in three southern Wisconsin counties. In each county a program was established with local agents assisting the researcher. The content in each case is creative textile design. Adult participants selected the program and were placed with either the predetermined linear program plan or the exploratory program plan. As stated, the programming effort for each program intended to meet a quality of factors (participation, timing of decision making, philosophical position, content selection, etc.) identified in the framework. The sessions were three hours, one day a week, for three consecutive weeks. One hour was added for administering the instruments equaling ten hours of instruction.

The goal orientation instrument, composed of items similar to the Scheffield and Boshier questions, was pilot tested and used to identify participants with specific concrete goals (such as designing an object related to the content) and those with more nonspecific goals (such as social, enjoyment, etc.).

The two instructors for the textile design programs were selected and verified by a panel of judges to reflect experience and teaching qualities that match the programming orientation used in developing the particular programs.

Participants were pretested in each case on a creative attitude instrument and on a creative problem solving instrument. After all three sessions were completed, the participants were again tested with the two instruments.

Findings 3 Due to a change beyond the control of the researcher, findings of this portion of the research presentation are not available at this time.

The following research hypotheses are presented:

1. The observed creative attitude and problem solving approach of participants (a) in a linear prescriptive program will differ significantly in attitude and approach of participants in an exploratory model, (b) who have a concrete, specific goal for participating will differ significantly in attitude and approach of individuals with nonspecific or general goals for participating, (c) with a nonspecific goal in an exploratory program will differ significantly from an individual with a specific goal in a linear program.

2. The observed creative attitude and problem solving approach of individuals with (a) concrete specific goals will be at a different level in a linear program than in an exploratory program, (b) nonspecific or general goal will be at a different level in an exploratory program than in a linear program.

3. There will be a positive correlation between one's creative attitude and problem solving approach.

CONCLUSIONS Returning to the overall framework, the theoretical model, and an overview of our three separate researches, we have come to some general conclusions regarding programmers' orientation.

We conclude the framework allows for an analysis comprehensive enough to encompass whole patterns or segments of program planning. From the position of studying programming, one can go beyond the concept that program decisions must fit into certain phases or procedures.

Conceptually, the framework has offered optimal ways of viewing programs on various levels. The informational orientation appears to be the predominant mode from one study, but the problem solving orientation is the espoused mode from another. These initial findings show that the model permits gaps between perception and practice to be identified.

The theoretical framework suggests possibilities for the operation of factors which contribute to interrelationships and differences among these studies. Some we raise are these: individual programmers' personal beliefs, personal style of individual instructors, the context of 'accountability' that affects an institution as a whole and professionals in that institution specifically, the nature and structure of an extension system. Other factors are raised as possibilities, but have not been investigated by these studies: the planning and implementation of programs according to constraints of time, tradition, politics, money, program need, or desired outcomes.

We conclude also that specific techniques can be developed to determine the particular orientations toward programming that exist in an adult education setting. These case study, survey, and experimental designs have been exploratory, and have caused a more rigorous description of programming beliefs, programming practices, and definitions.

Positions described in these studies are not new. Tyler, competency-based, and Houle models have greatly influenced development toward the linear orientation. Dewey, Lindeman, Friere, and Huebner have influenced program development toward the exploratory mode. These single models, however, appear to us to be insufficient for describing or explaining program development as it occurs in the adult or continuing education setting.

REFERENCES

1. Bernstein, Basil. Class, Codes, and Control. New York: Schocken Books, 1975.

2,4 Boyle, Patrick G. Developing a Program for Continuing Education. New York: McGraw-Hill Publishing Co., in press.

3. Eisner, Elliot and Elizabeth Vallance. Conflicting Conceptions of Curriculum. Berkeley, California: McCutchan Publishing Co., 1974.

5,6 Broudy, Harry S. General Education: The Search for a Rationale. Bloomington, Indiana: Phi Kappa Phi Educational Foundation, 1974.

7. Houle, Cyrus. The Inquiring Mind. Madison, Wisconsin: University of Wisconsin Press, 1961.

8. Scheffield, S. B., "The Orientation of Adult Continuing Learners" in Solomon (ed.), The Continuing Learner. Chicago, Illinois: Center for Study of Liberal Education, 1964, 1-22.

9. Boshier, Roger, "Motivational Orientation of Adult Education Participants: A Factor Analytic Exploration of Houle's Typology," Adult Education Journal, Vol. 21:2, 1971.

10. Maslow, Abraham. Motivation and Personality. New York: Harper, 1954.

Studying the Adult Learner in a formal educational context

Sean Courtney,
Research Fellow,
Institute of Continuing Education,
Northern Ireland.

1. Background

This paper reports on the current state of a Research Programme being undertaken at the Institute of Continuing Education. The Institute runs a one-year, full-time, academically intense course in liberal studies for mature students, with or without formal educational qualifications, over the age of 23. The course was set up in 1973, after the old Magee College had been reconstituted as the Institute of Continuing Education.

Research Brief

I have been employed to carry out a study of the Foundation Course, as it is called, and specifically,

(1) to measure student pre-course expectations, attitudes and motivation;

(2) to monitor student perception of tasks and assignments and delineate the major kinds of learning difficulties;

(3) to devise methods of measuring student performance appropriate to the aims of the course;

(4) to analyse the effectiveness of the student group as a learning resource for individual students.

From the beginning (December 1977), I have been less concerned with deciding which of these aims be accorded priority, less concerned with deciding whether the programme should be evaluative or processual in its predominant colour[1], and more concerned with describing and analysing the course milieu in all its uniqueness with an eye to the emergence of significant, generalisable themes.

Consequently, my initial move was to learn all I could about the functioning of the course, the background to its establishment, the philosophy which guides it, and the educational milieu within which it operates.

The Influence of Residential Adult Education

The work of the Institute, particularly as that is expressed in the Foundation Course (henceforth, FC) must be seen against the development of

---

Requests for offprints should be sent to the above, care of the Institute of Continuing Education, Magee University College, Londonderry, Northern Ireland.

residential Adult Education in Britain since the beginning of the century. This particular strain of a complex species was spawned by the campaign to open up the universities to all eligible adults regardless of class or religious background, a campaign which led to the creation of University Extension in the late 1800s, and the founding of the Worker's Educational Association in 1903.

First to be established, and still by far the most prestigious, was Ruskin College, Oxford. Its founder, Walter Vrooman, a wealthy American, hoped it would spearhead the beginning of a nationwide movement in residential AE. Ruskin would give workers, formerly denied it, the chance to go to Oxford, and, there, to derive the full range of academic benefits, which had been the traditional preserve of the middle classes. But they should not yield to the middle-class myth of competition leading to concrete, and, yet, culturally spurious, material advance. Instead "...it is hoped that many will go back to their trades and that the general tendency of the movement will be to implant in the working class of England a leaven of men who will bring to their daily work wider minds and artistic perception".[2]

Nine other colleges were set up in different parts of the country of which seven still flourish, including Ruskin. A new college has opened just recently in the North of England.

Their status within and influence on mainstream Adult Education may be determined if we bear in mind the following: firstly, they are insignificant numerically - in any one year the numbers attending all nine colleges (this includes the Institute in Derry) does not exceed 1,000.

Secondly, and related to the first point, they are residential. In the past, certainly, this aspect of the lifestyle has been more characteristic of seminaries than of normal colleges of further education. The value of residence has been espoused by all. It has been described by one warden as "detachment, liberation, and concentration".[3] It is the idea that people are freed from their normal environment to study in peace and to share their educational experience with others of similar type. They are surrounded by a learning environment. They can stand back and consider their lives impartially.

Thirdly, and, perhaps, crucially, despite their constitutional, structural, and educational uniqueness they appear to share with the main stream of full-time and part-time adult education an emphasis by students on the course's vocational or instrumental possibilities. It is this latter feature of the colleges' pedagogic influence which provides us with the clue to understanding their total significance to the student, and, an indication of his or her initial perception and eventual social and occupational choice.

Curriculum Content and Form

Courses in the colleges last for one or two years, though lately the move has been to the longer, examinable course, with a corresponding downgrading of the one-year variant. The FC is typical of the residential model curriculum; the subjects studied consist of language and literature, social studies and history. Teaching is by lecture and tutorial. Weekly essays are continuously assessed and go to form part of the total assessment, along with a project (undertaken by the student in an area of particular interest to him or her) and a final, university-validated exam.*

The Student Intake

To date 131 people, including this year's 41, have taken the full-time course, approximately a further 70 taking the part-time, two year version. Due to grant restrictions only 20 students have taken the course in any one year. This year the number was permitted to rise to 40 and will probably remain at this level for the next few years. On average, close to 70% go on to university, almost all to the New University in Coleraine.

2. Research Orientation

Initially, I aimed to understand the interrelationship of student expectation and course experience, with a view to building up, what might be termed loosely, a social-psychological picture of the mature student. Research of the survey and/or experimental nature in this area is extremely scarce. Despite the existence of British journals devoted to the subject[4] the bulk of empirical investigations lies buried and unpublished in theses. Kelly's bibliography has the appearence of being more comprehensive. In fact, however, Charnley's collection of annotated theses is far more useful for the beginner.[5]

One of the few serious pieces of empirical work to emerge in this field over the last 20 years must surely be J. Blumler's monumental study of Ruskin students in the '50s. His findings figured prominently in the submissions made by the residential colleges to the Robbins' Committee on higher education in the United Kingdom (1961-1963). Carried out over a six year period (1952-58) when he was a tutor at Ruskin, it was, in Blumler's words, "an exploratory study...not designed to test specific hypotheses"[6] but to enquire into the kinds of change which the experience of a long-term residential education might have on the social, occupational and personal experience of its present and former students.

Impressed by the scope and richness of the study I determined to begin the Institute's programme along similar lines. This was not intended to prescribe the study's methodology or final result, but to serve as a useful practical means by which an initial understanding of the FC and its social and pedagogic influence could be effected.

Two Surveys of Mature Students

In May, 1978, I undertook to interview, individually, the 20 students then currently participating in the course using a number of questions put by Blumler to his sample, supplemented by others pertaining directly to the students' experience of the course, which hadn't been asked by him. Almost all of these questions were 'open'. The findings thus obtained went into the

---

* The Institute is structurally part of the New University of Ulster, based in Coleraine some 30 miles away, and constitutes one of its five 'schools'.

187

creation of a new 'closed' questionnaire administered to all 41 of this year's intake.*

Why do Students do the Course?

Blumler had begun his investigations out of a curiosity to know in what ways 'second-chance' (residential) education affected the future lives of students. Through its close contact with the British Trade Union movement Ruskin is often seen as an institution which takes factory workers and educates them to become better trade unionists. It has been accused of setting in motion the escalator of social mobility which takes potential trade union leaders away from the movement and catapults them into the competitive striving for individual aggrandisement. How widespread is this reality? In what way is education as such the stoker of individual ambition? More particularly, does second chance, full-time education have this effect, and, if so, how is it expressed?

Occupational mobility should constitute the most obvious index. Blumler found that of those classed as 'low status' (manual and clerical jobs) at entry, 65% had moved, by 1957, into 'high status' occupations. Corresponding mobility took place among the majority of those classified as 'high status' at entry. To quote the author: "In the post-war period upward occupational mobility has been the rule, and permanent occupational immobility the exception among former students".[7]

Is residential education responsible for the arousal of ambition? Blumler questioned his sample from a number of angles. He classified responses under three broad categories:

(1) vocational: dissatisfaction with previous employment;

(2) organisational: mainly, a student's concern to prepare himself to play a more effective part in the Labour Movement; and,

(3) intellectual/cultural: enjoyment of a subject, a concern to overcome certain intellectual weaknesses.[8]

Main findings emerging from interviews with 79 entrants showed, firstly, that most had been influenced by a combination of motives, and, secondly, the vocational element was strongest, but was rarely mentioned by itself.

The Components of Ambition in the Derry Sample

I have discovered a striking replication of Blumler's three dimensions of motivation in the Institute sample, though the interpretative labels might need to be changed. Firstly, and, perhaps, a little strangely, the vocational element per se, i.e. explicitly linked to future job prospects, is missing. Or rather it seems, it is so pervasive that it does not require overt reference. Instead, there appears a component I term 'Instrumental' reflected in the considerable endorsement given to statements (in the questionnaire) such as:

---

* Of the 61, 54 have given information; one refused, 3 others have dropped out of the course and will be followed up; the remaining three have promised to return questionnaires.

"I wanted to obtain a formal qualification" and "I wanted to go to university.*

The clear existence of Blumler's intellectual/cultural dimension is dramatically highlighted by the overwhelming endorsement given to the statement: "I felt my education was incomplete."

This component I have renamed 'Educational' and fits the idea of importance been assigned to the value of education as such, rather than to enjoyment of or ability in individual subject disciplines. It is significant that one of the 15 statements expressing the latter attribute is only moderately endorsed.

Thirdly, in place of Blumler's 'organisational' component arises one which requires that any future job give personal and social fulfilment. The similarity between both groups on this factor is striking. It represents a concern for the meaningfulness of one's social 'position', a preoccupation with one's social 'relevance'.

The paper concludes with an interpretation and analysis of how the course acts upon the relative salience of each of these components of ambition for the individual student.

3. The Current State of the Programme

This paper has concerned itself with exploring a single aspect of an adult's experience in a formal, educational context. This educational 'experience' has a number of fairly independent facets, the least important of which seems, on present reckoning, to be the actual commitment to or satisfaction in academic disciplines. Of considerably greater importance is the course's interaction with the student's sense of personal and social direction, not the least aspect of which is his or her need for and commitment to the possession of intellectual 'skills'.

It is hoped that by the end of the year I will have personally interviewed all 41 of this year's intake on specific aspects of their one-year's experience. They are being asked, for example, to keep a "Diary of Private Study". Data thus yielded will be supplemented with information gained from personal classroom observation (totalling between 20 and 30 hours). Added to this, and as a means of building up student profiles, I was allowed to sit in on the selection interviews of over 80 applicants for this year's course (1978/79).

The aim of the programme and the methodological 'climate' in which it operates is to discover a number of basic, 'stable' questions of pedagogic value: questions educators are or should be asking. In this process many questions which appear vital to the interests of the course and the student can be shown to be 'local' and of little research-oriented interest. Inevitably, two related issues must be raised: firstly, the researcher's function or role in an educational institution; secondly, the methodological 'validity' of what is being termed research. Both of these problems will be considered in turn.

---

* Students were asked their "main reasons" for doing the course and were provided with 15 statements which they could endorse as "very important", "somewhat important", or, "hardly mattered".

NOTES

1. This distinction which has had considerable, and, perhaps, over-rated influence on perceptions of the validity and relevance of the research function in education was made by M. Scriven. One source of the influential 'The Methodology of Evaluation" is the volume Perspectives of Curriculum Evaluation, published by Rand McNally, 1967. See Section 4, pp 49-51.

2. Walter Vrooman, in "The Story of Ruskin College, 1899-1949" (Oxford 1949); quoted in K. Rowe: "The Development and Changing Roles of the Adult Residential Colleges in Britain" (1970, p. 77; unpublished M.Ed. thesis, University of Keele).

3. K. Rowe, op. cit., p. 70.

4. For example, "Adult Education", and "Studies in Adult Education" both published by the National Institute of Adult Education, the latter under the aegis of the University of Leeds.

5. A. H. Charnley: Research in Adult Education in the British Isles (NIAE, 1974)
   T. Kelly: A Select Bibliography of Adult Education (NIAE, 1974).

6. J. Blumler: "The Effects of long-term Residential Adult Education in Post-war Britain, with particular reference to Ruskin College, Oxford" (1962, p. 10; unpublished Ph.D. thesis, Oxford).

7. Blumler, op. cit., p.44.

8. ibid., p. 93.

THE AIMS OF THE AMERICAN ADULT EDUCATION MOVEMENT IN THE NINETEEN TWENTIES: A HISTORICAL ANALYSIS

Harold W. Stubblefield*

Associate Professor of Adult & Continuing Education
Virginia Polytechnic Institute & State University

The nineteen twenties saw the birth of adult education as a national movement in the United States. Surprisingly little research, however, has been directed toward its origin, its aims, its social and intellectual context, and the people who gave it leadership. This paper explores one aspect of that story: the aims of the American adult education movement in the nineteen twenties.

Between 1924 and 1927, the years that the term adult education became widely accepted as the generic term to describe the educational activities of adults, there appeared five books about the nature and aims of the American adult education movement. These books, now classics in the field of adult education, are: James Harvey Robinson, The Humanizing of Knowledge (1924); William Learned, The American Public Library and the Diffusion of Knowledge (1924); Eduard C. Lindeman, The Meaning of Adult Education (1926); Everett Dean Martin, The Meaning of Liberal Education (1926); and J. K. Hart, Adult Education (1927).

Of the many books about adult education that appeared in this period, most provided a description of one segment of the field or institution. The writings of Robinson, Learned, Lindeman, Hart, and Martin are distinguished with respect to their attempts to provide an overview of the field through an interpretation of the nature and aims of adult education. They sought to provide the movement with conceptual clarity about its direction and its meaning. This paper examines the aims of the American adult education movement in the nineteen twenties through an analysis of these books. The work of each author was evaluated to identify (1) the threats to American society for which adult education was the antidote, (2) the core meaning of adult education and its primary tasks, and (3) the means by which the proposed solution could be achieved.

Adult Education as the Diffusion of Knowledge

The first attempt to articulate the aims of adult education in the United States came in 1924 with the publication of James Harvey Robinson's book, The Humanizing of Knowledge. Robinson is best known for his research in European history and as founder of the "New History" at Columbia University, his work in adult education with the founding of the New School for Social Research and later attempts to promote this new movement, and as a popularizer of the new social science knowledge about man and his evolution.

---

*208 University City Office Building, College of Education, Virginia Polytechnic Institute and State University.

The thesis that Robinson put forward in The Humanizing of Knowledge appeared first in 1921 in The Mind in the Making: The Relation of Intelligence to Social Reform. His thesis held that the social sciences had produced new knowledge about man and his behavior that should be used for the intelligent management of human affairs. However, this knowledge had not been incorporated into the thinking and behavior of the general populace. Instead, most people clung to traditional ideas about religion, politics, nationalism, economics, and race. Robinson wanted to bring the mind up to date, to reconstruct the mind so that one could understand human conduct and organization as it really was.

The mind, however, could not be reconstructed until knowledge was "humanized." Scientists through their research had "dehumanized" knowledge. That is, they studied small pieces of human phenomena and reported the findings in technical language. Present scientific knowledge about man and his society needed to be "re-synthesized" and "re-humanized" so that the lay public and scientists themselves could understand it and relate it to their life situations. The diffusion of this knowledge, in Robinson's judgment, was the core task of adult education. But how was this to be done?

Institutions of higher education were too well entrenched with their vested interests, rigid routines, and set curricula to be useful in this endeavor. Acting upon this belief in 1919, Robinson, Alvin Johnson, John Dewey, Thorstein Veblen, and others founded the New School for Social Research in New York City to provide adult education in the social sciences for educated persons. Eschewing the trappings of higher education, the New School admitted anyone who wanted to learn. The New School and other agencies of adult education were to be instruments of humanizing knowledge.

Moreover, the new scientific knowledge needed to be made available to the wider reading public. This was to be done through books that were relatively inexpensive and somewhat longer than a magazine article but shorter than a typical book. The task required a new literary form, for a book for the general public must capture the reader's attention, present information so that the reader could understand it and fit it into his life, and suggest the significance of the material. Robinson edited several volumes of such a series called The Workers' Bookshelf by the Workers Education Bureau of America.

In the same year that The Humanizing of Knowledge appeared, there was also published a second book concerned with the diffusion of knowledge in relation to the tasks of a central agency for adult education, the public library. William S. Learned prepared The American Public Library and the Diffusion of Knowledge as a report for the Carnegie Corporation, and it was later published as a book. In the report, Learned claimed that. . .

> . . .self-education with intimate relation to daily interests and activities must be recognized as a natural process of mental growth that responds to a constant and legitimate craving of the intelligent adult which continues, if properly gratified, throughout life. (p. 7)

While there was widespread adult education, little attention was consciously and systematically given to diffusing knowledge to the adult community.

The library should become a "community intelligence service" to serve the unique needs of adults as schools and colleges serve the needs of youth. Such a service required an "intelligence personnel" and a creative organization for imparting the knowledge. These intelligence personnel would serve a bridging function between the world of knowledge as contained in books and the world of people. These counselors constitute "a sort of new clergy of the mind." The purpose of such a service would be to collect and simplify knowledge through preparing authorative guides on different aspects of knowledge or human concerns such as health.

Adult Education as Social Education

Eduard Lindeman's book, The Meaning of Adult Education (1926), is a penetrating interpretation and it is markedly different from the knowledge diffusion approach of Robinson and Learned. Several lines of influence converge in Lindeman's interpretation. Lindeman had established himself as a leading authority on community organization with the publication of his book, The Community in 1921 and on functional groups with Social Discovery in 1924. By 1923 he was actively engaged in the Inquiry project, sponsored by the Federal Council of Churches, designed to study and treat the problems created by conflicting interests groups. The ideas of John Dewey and Mary Follet, among others, had begun to influence him. Moreover, he had studied the adult education movement in England and Denmark, observing first hand in Denmark the impact of the Danish folk high schools upon the Danish agricultural community. Here he learned that adult education had its greatest impact not as an isolated entity--study in a class setting--but as a corollary to and supportive of broader social movements.

Lindeman derived the aim of adult education from an analysis of modern society; its principal forces are science, specialism, and industrialism. Our behaviors, he claimed, were modern to the degree that they were responses to scientific discoveries, experts, and machine-production. The task was to relate persons and material forces in such a way as to make qualitative differences in both. That required social intelligence.

In reaction to the idea that education was synonymous with schooling, Lindeman defined adult education as coterminous with life, revolving around non-vocational ideals, its curriculum built around student needs and interests and not subjects, and the learner's experience as highest value. Adult education was a quest for life's meaning and that meaning, Lindeman held, could only be discovered in the things for which people strive. Persons whose basic aim was to improve themselves also wanted to change the social order, for vital personalities create a new environment in which to express their aspirations. Adult education, to Lindeman, was of one piece; there was no dichotomy drawn between education for individual development and social improvement.

Intelligence, in Lindeman's view, implies a method, not a body of knowledge or ability to be measured quantitatively. Hence his argument: "Adult education is an attempt to discover a new method and create a new incentive for learning; its implications are qualitative, not quantative." (p. 19) Adult education should concentrate on method, not content, for adults need to know how to cope with situations. This setting for this quest for meaning was the small group with the teacher as discussion leader. To make experience yield its intellectual content required discussion of our situations with persons concerned with us, likely to be influenced by us, and have special information which we need.

The belief that collectivism is "the predominant reality of modern life" prompted Lindeman's insistence that adult education concern itself with social realities. Education supplied energy for directing collective enterprises by (1) helping persons understand the nature of the social process, (2) turning the warfare of diverse group interests into creative conflict, and (3) creating a method for social functions to make collective life an educational experience. Social institutions could command the loyalty of its members only by giving their intelligence freedom to operate.

J. K. Hart's Adult Education appeared a year later in 1927 as a volume in the Crowell's Social Science Series. His interest in education and the community are apparent at the beginning of his career in 1910 as a teacher educator. Recognizing that the community controlled what the schools taught, he had his student teachers study the community as an educational force. His earlier books treated the history of education, educational resources in the rural community, and community organization. In the early 1920's Hart became an outspoken advocate for adult education as education editor of The Survey. A visit to Denmark in 1925 confirmed his earlier views that education should study and release the educational forces of the community. He saw in the Danish folk high school living proof of the power of adult education to tranform a culture.

Hart, as had Lindeman, recognized that the industrial revolution had also brought about a revolution in politics, religion, and education. Industrial reorganization required a reorganization in every other order of life, but the reordering had not occurred. The "village mind" still prevailed in the industrial age; morality, politics, education, and religion lagged behind. There was a "cultural lag." Hart argued that the emergence of the industrial revolution prevented the realization of the dream for democracy in the last quarter of the 18th century. The problem of adult education lay in clarifying what genuine democracy should be for the future and how its meanings might be realized. Hart's analysis of adult education sought to find the place of education in the total of civilization; he treated education as function of the whole life of the community. (p. 43)

Hart's book is wordy and repetitious but his principal ideas are clear. Education cannot be equated with schooling; the community itself is the ultimate educator. To overcome its village mindedness, the community must become open to new ideas. In words reminiscent of Dewey, Hart maintained that experience must be continually reconstructed through new ideas. Adult education was the way that new ideas are brought into the thinking of citizens and hence into the schools.

The core task of adult education then was to develop the spiritual powers of adults. By spiritual powers he meant the feelings that one has for the larger social group, the desire to create and master, a sense of justice and fair play, and a desire for knowledge as the way to illuminate and understand the meanings of life. The achievement of these ends required instrumentalities and a community life to release and develop these powers. Hart's solution was an educational center in every community so that the "interests, powers and values of individuals and groups" can be clarified and organized into "an intelligent personal life." (pp. 305-306) He found in the neighborhood settlement house, English village colleges and the Danish folk high schools models of such a center.

Adult Education as Liberal Education

Everett Dean Martin's interpretation of the aims of adult education differed from those of Robinson, Learned, Lindeman, and Hart in the emphasis on a tradition of education and the inattention to the conditions of the time. Martin's book on The Meaning of Liberal Education appeared in 1926 and it contrasts significantly with that of Lindeman whose book appeared in the same year. These two books portray two divergent traditions of adult education. The chapters that comprise The Meaning of Liberal Education were given as lectures on Friday night to working people at the Peoples Institute in New York City where Martin served as director.

Using the value system of liberal education, Martin measured American society and found it wanting. He saw in American society a certain intellectual shoddiness, a desire for sensationalism, compliance with mass opinion, and materialistic values. American society needed a transformation of mind, the directions of which could be found in liberal education.

The liberally educated person was characterized by a continual questioning of accepted opinion, a tolerant skepticism of the crowd and partisan controversies, awareness that final truth was unattainable, and an ordering of life according to a wise discrimination of values. Such an attainment was not possible for all persons; only an elite could aspire to this level of existence. While Martin did not limit such an attainment to any one class, he certainly believed that few of the working class were capable.

Education proved to be liberalizing when it resulted in a "spiritual revaluation of human life." It served to reorient the individual, give a richer view of experience and to place him above his beliefs. Liberal education is "the kind of education which sets the mind free from the servitude of the crowd and from vulgar self-interests." Education, to Martin, was philosophy at work, a search for the good life, a way of living.

From this definition of liberal education, Martin derived the aim of adult education. That aim was the "cultivated amateur," one who continued to learn outside of school. Modern adult education was unique in that it was for those still engaged in work. It differed from ancient Athens where education was for the leisure class and from the medieval university where scholars retreated to the cloister. Such education should have a marked influence upon the tastes and habits of thought of community. Education, in its true sense, was culture: it produced a distinct breed of persons. As Martin put it:

> Education may be said to be achieving its purpose in a nation to the extent that quiet reflection supplants superficial cleverness, and that minds with patience and grace and breadth of outlook, with indifference to fads and catchwords and with respect for excellence, supplant the 'go-getter,' the 'movie-fan,' the worshiper of Mannon, the sensation monger and the narrow sectarian. (p. 310)

To Martin, the philosophy of liberal education provided the philosophical underpinnings of adult education. Already the movement suffered from a confusion of aims, in danger of becoming the captive of special interest groups. As Martin knew, "the popularization of knowledge is not the same as the humanization of knowledge." (p. 312) Adult education was not intended for the masses; it was selective. Its purpose was not to give bits of information to everyone but to select a few who want to be "more than automatons." These persons were self-motivated, they would learn without educational institutions or classes, but study in isolation was lonely, so they learned with others.

Conclusions

These five persons--Robinson, Learned, Lindeman, Hart and Martin--made a singular contribution to the emerging field of adult education. Their works contain the beginning of a new educational philosophy for adults. They brought adult education to the attention of the public, they interpreted its core meaning, and they articulated its aims. They did not in their works begin a movement, but they did begin the conceptual task of interpreting the meaning of the educational activities of adults and the social institutions that sponsored these activities, placing adult education in its larger social context. With the possible exception of Learned, they treat the role of adult education in bringing to fruition the purposes of American civilization.

It is clear that their interpretations differ, and sometimes fundamentally. Robinson and Learned saw the task as that of diffusion of knowledge; they were concerned with making knowledge accessible. Lindeman and Hart, on the other hand, took as their focus the community, a community that had ceased to be educational, that left the individual powerless, that was controlled by conflicting special interest groups and experts. Hence their concern for adult education as the means to release the creative powers of individuals, for methods to reconcile the conflicting interests, and for social intelligence. Martin, in his efforts to ground adult education in liberal education, viewed the popularizing of knowledge with disdain and elevated individual development over social improvement.

A common thread runs through all five works: learning is for adults and an educational philosophy that ignores adult learning is inadequate. They recognize the need for rationality and social intelligence in treating common social problems and they believe that adults, with opportunities to learn, could constructively manage their social and civic affairs.

The aims they articulated fifty years ago were not transient concerns. Knowledge diffusion is a major effort of the Cooperative Extension Service, university extension, and research and development organizations. Concern for the management of group and community life is expressed in the current movements for organizational development, community development, community education, and laboratory education. The Great Books program, study-discussion groups, foreign affairs associations, and other culturally oriented programs continue the liberal education tradition.

This paper is a modest attempt to examine the educational and social ideas of adult education as expressed in the beliefs and aims of five prominent adult educators. Beyond questions of the adequacy of this study, some generalizations can be drawn about the fruitfulness of this approach. The systematic examination of the educational and social ideas of adult educators is essential for understanding how adult education developed, why it developed as it did, the dominant concerns that engaged its attention, the aims it articulated, and the methods used to attain these aims. Few historical studies of adult education adequately address the social and intellectual context. As a consequence, adult education is too often viewed abstractly, as though the ideas about adult education were divorced from what other persons were thinking and doing.

The study of adult education in the context of the social, political, and intellectual movements gives a concreteness to its nature, aims, and strategies. It yields a basis for comparing the conceptions of adult education held in the various period of American history and in other national cultures. Such an approach requires identifying the categories to be used for comparisons and the intensive study of the historical period to provide benchmark data for comparisons. In the United States, the 1920's and 1930's comprised the most significant years; in these two decades adult education became a national movement and a body of literature emerged. The five books analyzed here are only fragments of the literature in this period that sought to interpret the nature and aims of this movement. They represent the first attempts to understand this movement in the perspective of American social conditions.

References

Hart, Joseph K. Adult Education. New York: Thomas Y. Crowell Company, 1927.

Learned, William S. The American Public Library and the Diffusion of Knowledge. New York: Harcourt, Brace and World, Inc., 1924.

Lindeman, Eduard C. The Meaning of Adult Education. Montreal: Harvest House, 1961 (1926).

Martin, Everett Dean. The Meaning of Liberal Education. New York: W. W. Norton and Company, 1926.

Robinson, James Harvey. The Humanizing of Knowledge. New York: George H. Doran Company, 1924.

The Building of a Civically Literate Society: Implications for Policy & Practice Related to the Education of Adults

by

Grace M. Healy
Associate Professor, Adult Education
Syracuse University

This paper describes one case of social intervention, The Civic Literacy Project, undertaken by a group of adult educators within their own community of Syracuse, New York. The intervention was a teaching and learning approach to the problem of citizen alienation. The purpose of the intervention and its study was, not only the reduction of citizen alienation in one locale, but also the development of a replicable model for other education agencies and communities.

What will be reported here are the following: the problem addressed by the project, the underlying principles of the intervention methodology, the activities undertaken, the outcomes attained, and the implications of these for future adult education policy and practice. The data base for the study included extensive participant observation notes, numerous project records, and citizen interviews.

The Problem

Project goals and activities are best understood by first considering the meaning of the problem which was addressed, namely citizen alienation from governmental processes. One definition of the word alienation is *a state of estrangement or disaffection.* This definition might be interpreted as follows: citizens are estranged from governmental processes, or, a state of disaffection exists between citizens and government officials. These are the meanings which have most often been used when formulating an educational or legislative intervention such as the Economic Opportunity Act of 1964 which called for maximum citizen participation.

During the last two decades there have been numerous efforts in the United States to institutionalize new channels for citizen expression. (Mogulof, 1970) These have ranged from citizen activities such as lobbying and protesting to the holding of membership on advisory committees. Whether citizen-initiated or government legislated, whether citizen and/or government controlled, the prime intent of these activities appears to have been that of one group's influencing the other through the sharing of information. The information exchanged might have been a mere loud and reactive "no" on the part of special interest groups. It might have been a lengthy presentation of facts and proposed policies. Whatever the degree of exchange, however, the expected outcome has been the same, the influencing either of government officials or of voters.

Reprints or the full report may be obtained from Grace M. Healy, 224 Huntington Hall, Syracuse University, Syracuse, N.Y. 13210

If citizen alienation is viewed as the existence of a state of disaffection between government and citizens, then such efforts at opening lines of communication between the two parties are appropriate. In fact, information exchange can at times engender some understanding between the governed and those who govern, and an appreciation of the problems of each by the other. But the question remains: is an understanding of citizen alienation as estrangement of affection sufficient to reach to the roots of the problem? It would seem not since dissatisfaction with citizen participation is prevalent. (Seidman, 1970)

Let us consider another definition. *Alienation is the taking of something from its owner, or the transfer of a right.* This definition might translate to: governmental processes are not owned by citizens. Moreover, social problems which the processes attempt to address are not owned by citizens. There has been a transfer of the right of ownership of problems and their solutions from citizen to government. Moreover, citizens no longer own those governmental processes which were originally instituted to support them in their endeavors as citizens. Those who govern are no longer thought of as *citizen.* Citizens are no longer considered *governors.*

The Civic Literacy Project addressed the problem of citizen alienation from governmental processes in terms of the transfer of ownership. Its purpose was the exploration of the meanings and consequences of the return of ownership to citizens of contemporary social problems, processes, and solutions and the resultant relationship between *governor citizens* and *citizen governors.* Specifically, it attempted to provide an educational experience which could enable adults to understand the major issues of their society from the standpoint of *doing* something about them.

It became clear to citizen participants as the project emerged that the *doing* would be of a particular kind. *Taking on ownership* of problems and solutions would require, for example, the rejection of an approach toward the future which allows for denial or withdrawal when those problems are humanly difficult. ("Proliferation of nuclear waste is not a problem." "Don't tell me about depletion of energy resources!")

Ownership would require going beyond adaptive actions such as the following based upon an acceptance of the inevitability of a future. ("Given access to zero oil resources, how do we cope?") This is the stance of most organizational planners and leaders, and a stance of many citizen advisory committees which rely only upon the predictions of experts as the basis for their planning and action.

Ownership would require moving beyond the following preventive stance. ("Given the threat of a steam plant in our neighborhood, we organized a protest.") In a preventive stance, the inevitability of a particular future is not accepted, but neither is there a consideration of the kind of future that is wanted or what the future ought to be. Many, if not most, citizen groups operate in a preventive or crisis mode and much government intervention is in the form of preventive planning and policy formulation. (Creighton, 1977) Even the *anticipatory democracy* of Toffler (1975) which would embody principles of proactive planning with broad-based citizen participation seems to be more reactive than proactive in its "anticipation."

While crisis situations often demand preventive or adaptive stances, the continuing use of reactive approaches to the future is inadequate, and hence, inappropriate. This seems to be what Nader (1973) was saying when he urged a move toward *initiatory democracy*.

The Civic Literacy Project was designed to go one step further. Its claim is that Nader's initiatory democracy must emerge from citizens' ownership of problems and from an inventive stance toward the future. Fueling this inventive stance would be the melding of citizens' intentionality with their creativity. All of this assumes the conviction that citizens can have an impact upon the future, and that they can bring about new states of affairs which constitute their own claims about what is and what is not a desirable future. In short, the goal of the Civic Literacy Project was the continuing development of civically literate citizens. This concept will be discussed in detail later in the paper.

Project Methodology - Futures - Invention

The Civic Literacy Project activities were centered in a participatory planning and civic action methodology called Futures-Invention. This is an approach which emphasizes the moral aspect of the future. It employs the discovery method of teaching and learning. In this method a set of questions is asked which lead participants into the future of their hopes and their intentions. The future is no longer an abstract idea or a fantasy. Participants become clear about what kinds of future they want to bring about, and why and how. Once familiar with the future, and understanding what they want to make of it, citizen-participants return to the present with new ideas, new insights and new commitments to action.

6

The most popular format for Futures-Invention is a residential workshop usually lasting from three to five days, including overnights. The residential format was used in five of the seven Civic Literacy Project efforts. Alternatively, a seminar approach to Futures-Invention can be taken. In such instances, persons come together periodically over a number of months for a day-long session. Two project groups utilized this format. Whichever the format chosen, the citizen-participants worked extremely hard. A day's schedule usually involved nine or ten hours of difficult reflective and negotiating activity about participants' intentional claims on the futures under consideration.

In all, there were seven major project workshops in which over 175 citizens participated. These individuals came as a result of an open invitation to all adult citizens to take an active part in inventing the future of metropolitan Syracuse. At the time of the invitation, the residents of this community were being confronted with the closing of some neighborhood schools, the pressures of meeting New York State requirements for school integration, waste disposal and steam plant controversies, a special prosecutor appointed by the governor to investigate allegations of political corruption in Onondaga County, and the anticipated closing of the local penitentiary by the New York State Department of Corrections.

The citizens who responded to the project invitation were adults whose ages ranged from the mid-twenties to the seventies. They were men and women of differing ethnic backgrounds. Their years of schooling ranged from minimum to to maximum in number. Although they had a wide variety of experience and background, citizen-participants shared a dissatisfaction with some of the present conditions within the community. Most persons did not feel potent relative to governmental processes, but they appeared to believe in their own potency in some area of their personal lives. Moreover, they were willing to commit their time and energy to discovering the meanings of Civic Literacy.

Civic Literacy

Civic Literacy is many things. Basically, it has to do with a new understanding of the idea of citizenship in this complex world of ours. (Ziegler, 1974) Civic Literacy is action and reflction on that action. It is a language and a set of meanings which are expressed in the actions of citizens. To be civically literate means to have skills, understandings, and knowledge in the civic sense. But there is more, Civic Literacy includes recognition and acceptance of the fact that the meanings of the civic sense are not clear. They must be discovered, invented, and negotiated by citizens. An understanding of civic literacy will begin to grow as citizens address questions about political and moral life in our society; questions about ends as well as about means; questions about what we ought to do as well as about how to do it; questions about the future as well as about the past.

If, for example, Civic Literacy includes the act of voting, it also includes reflection upon the meaning of that act with all of its problems. If it includes protest against particular governmental policies, it also includes reflection upon the meanings, the consequences, and the limitations of the use of reactive tactics. If it includes citizen participation on advisory committees, it also includes reflection upon the questions of who owns the problem and who owns the solution. It includes reflection upon what it means to be a member of an advisory committee: Do citizens only advise or do they contribute to policy formulation?

The entire notion of Civic Literacy rests upon two propositions: first, that persons in this world seek a good life which is realizable only through interactions with other persons who also seek a good life and, second, the Civic Literacy of each person is dependent upon, and cannot be fully realized without the Civic Literacy of every person.

In the theory and practice of Civic Literacy, competence is an important concept. It has two components. The first has to do with will or intentionality. The second has to do with ability or skill. The civic competence involves both will and ability. For example, to assess someone's civic literacy by judging only the level of civic skills without judging the intentions behind the use of those skills is an incomplete assessment. It is, for example, possible to be quite good at doing something which is a bad thing to do. On the other hand, to judge a set of intentions without assessing the skills of citizens to actualize their intentions, is also an incomplete assessment.

Data show that as a result of participation in the Syracuse Civic Literacy Project, citizens throughout New York State are practicing the following:

1. The competence to combine imagination with intentionality. - This signifies that citizens are willing and able to identify, define, and articulate

their individual intentions related to a particular concern.

2. The clarification competence.- This signifies that a citizen is willing and able to help other citizens become clear about their intentions for the future.

3. The specification competence. - This signifies that citizens are willing and able to develop concrete indicators for the achievement of their goals. They are clear as to the meanings of the goals they intend.

4. The forecasting competence. - This signifies the willingness and ability to forecast unanticipated and unintended as well as anticipated and intended consequences of the successful achievement of goals.

5. The competence of assaying, choosing, deciding. - This refers to the willingness and the ability of cirtical evaluation with respect to alternative desirable futures within institutional and community constraints.

6. The action competence of effective performance. - This means the willingness and ability to translate citizens' alternative, desirable futures into strategic and short-term actions which mediate among the desirable, the feasible, and the practical.

7. The enabling and networking competence. - This means the willingness and ability to learn how and why to listen to and critique citizens' needs, goals, plans, and strategies according to the principles of civic literacy.

Outcomes

In addition to the development of the citizen competencies listed above, project outcomes may be described as citizen-participants' definition of matters of common concern, the invention of long range goals to which they are committed, the identification of strategies and tactics for the attainment of goals, and the networking of citizen resources. Each of these is described in detail in the full report. For the purposes of this paper, it is considered appropriate to move on to recommendations.

Having identified and made judgments about strategies and tactics, citizen-participants are now engaging in numerous activities on their way to their futures in the year 2000. To help themselves and others, they have developed a networking directory. Included in this directory is a listing of citizens' concerns, intentions, present activities, and the resources which they themselves possess, or to which they have access. Citizens are thus able to identify the skills and expertise of others. They are also able to make some determination of other citizens' levels of commitment relative to specific concerns.

The networking data give the clearest indicators of the lessening of citizen alienation through the assumption of ownership of both problems and their solutions. Clearly, acts of ownership and acts of appropriation are opposite sides of the same coin. Persons are alienated when they cannot or do not act in behalf of themselves. When persons own their intentions and actions within and for their civic settings, they have moved out of a condition of self-alienation. In principle, governments cannot do this for persons. Citizens must act as agents in their own behalf in settings which they bring about in order to facilitate that action.

Recommendations

In two years, the Syracuse Civic Literacy Project has moved from the point of initiation, through development, to maturation. In two years, the responsibility for the project, its creative maintenance and expansion, has been transferred from the project staff to citizen-participants. What has become clear in this evolution, is that the project experience, what the project staff and citizen-participants have done, and why and how they did it, is not transferable.

A Civic Literacy Project always possesses its own unique meanings, as participants seek to understand and interpret their experience in such a way that they modify and make their experience better. In short, each and every education program devoted to the Civic Literacy approach, and each and every group of citizens involved must create its own experience. There is no empirical model of Civic Literacy. There is no Syracuse model to copy.

However, there are some guidelines for designing and initiating Civic Literacy projects. Our experiences have led us to claim that the chief task of an educational agency which sponsors the development of educative civic settings is to enable acts of appropriation by citizen-participants. In other words, citizens must not only take on ownership of civic problems, solutions, and appropriate processes, but they must take on ownership of the educative process, that is they must be in charge of their own learning.

Principle I - This is the principle of "starting with yourself." In Civic Literacy projects, the intentions of the project staff are crucial. Staff members should understand that they themselves are citizens prior to their being experts, organizational members, project staff, faculty, etc. In a democratic, self-governing society, the office of citizenship is the highest calling to which a person can aspire.

Principle II - This is the nurturing principle. Intentionality must be nurtured where citizens are convinced that no organization or agency is concerned about what they are concerned about. Project staff must aim to create educative settings in Civic Literacy. In these settings, citizen-participants practice and become more competent in a self-directed learning mode about their matters of concern, their intentions, and their action commitments as citizens.

Principle III - This is the emancipating principle. It refers to the acts of appropriation discussed earlier. Project staff aim to create an emancipatory relationship with citizen-participants, such that the future history of the project is the gradual assumption of authority over and responsibility by the citizen-participants for their project.

Principle IV - This is the multiplying principle. It cannot be understood separately from the emancipating principle; but it does involve additional and different practical activities. The project staff does not aim at increasing the number of citizen-participants. It aims at increasing the Civic Literacy competencies of the citizen-participants so that they themselves extend the project (a) to new citizens and (b) to new matters of concern. In this way, the creative maintenance and expansion of the Civic Literacy approach within a given community is rendered more likely, and any project undertaken can become a self-generating activity.

References

Creighton, Hames L. In Tony Staed (ed.) At Square One. Washington, D.C.: Federal Interagency Council on Citizen Participation, March 1977.

Healy, Grace M., Ziegler, Warren L. et.al. The Civic Literacy Project Final Report. Syracuse, New York, March 1979.

Mogulof, Melvin B. Citizen Participation. Washington, D.C.: The Urban Institute, January 1970.

Nader, Ralph. "Introduction." In Donald K. Ross, A Public Citizen's Action Manual. New York: Grossman Publishers, 1973.

Seidman, Harold. Politics, Position, and Power. New York: Oxford University Press, 1970.

Toffler, Alvin. "What is Anticipatory Democracy?" The Futurist. Vol. IX, No.5, October 1975.

Ziegler, Warren L. On Civic Literacy. Syracuse, New York: Syracuse Research Corporation, June 1974.

THE CONFERENCE COORDINATOR:
A STUDY OF ROLE EXPECTATIONS AND PERFORMANCE

August William Mueller, Ph.D.
Associate Director of Conferences,
The University of Michigan

Conference coordinators, as continuing education program planners, experience disparities between roles they desire and roles they perceive to be expected of them by conference program chairpersons with whom they work. This study investigated desired functions and roles of coordinators as well as the existence of barriers which limit their professional performance. The data reflect perceptions of 353 respondents in 213 four-year colleges and universities in the United States. This represents 72% of the population surveyed.

PURPOSE

The purpose of this study was to identify the frustration-producing barriers experienced by conference coordinators; to identify the desired roles and functions as perceived by conference coordinators; and to identify criteria for professional performance and role expectations of conference coordinators as determined by expert judgments reflected in the literature. The basic research questions to which this study was addressed were:

1. Are there barriers to professional role functions which produce frustrations experienced by conference coordinators?
2. What are the desired roles and functions of conference coordinators as perceived by professional coordinators in the field?
3. What are the criteria for professional performance and role expectations of conference coordinators based on the judgments of experts? (The experts from whose literature such judgments were drawn are: Dekker, Deppe, Gessner, Leathers, Stottler, and Woerderhof).

REVIEW OF LITERATURE

The literature on role expectations and performance of the conference coordinator is limited. It exists in fugitive references within the body of literature of adult and continuing education. In addition, presentations and articles by practitioners in the field of educational conference programming present information as to the educator-administrator-facilitator functions of the coordinator. Only Deppe[1] and Leathers[2] report research findings related to the role. Neither has sought information directly related to role expectations and performance criteria, but Leathers' data report the ideal versus the actual roles of coordinators in university

---

For reprints: Department of Conferences & Institutes
350 South Thayer St.
Ann Arbor, Michigan 48109

conference centers.

The literature related to role development and professionalization of adult educators shows a sequence of developmental steps. Since the 1960's, the conference coordinator's role has emerged within adult and continuing education, following a similar sequence of steps toward professionalism. Barriers to such professional performance, role functions desired by coordinators, and criteria for professional performance are viewed as emerging from such a background, providing the objectives of this study.

METHODOLOGY

This study was conducted in two phases. Phase I consisted of the pretest of a self-administered questionnaire developed by the investigator. The instrument was mailed to the pretest sample of selected conference coordinators working as seven four-year public universities in Michigan. This phase tested the reliability of the instrument items, and through the use of open-ended questions identified categories of the variables to be used in the second phase instrument.

Phase II consisted of a self-administered questionnaire constructed by the investigator from the pretest items. This instrument was mailed to the population of 591 members of conferences and institutes departments in 213 member institutions of the National University Extension Association, excluding the pretest sample.

The survey instrument was designed to obtain information concerning research objectives number 1 and 2, described previously. By reporting the types of program planning experienced, the three most severe barriers that frustrate their professional performance, and the perceptions of how they were regarded by the conference program chairpersons with whom they worked, a concept of their role expectations has been identified.

This concept was broadened by the reports of the respondents concerning the job functions they liked to perform and how those fit into their present work responsibilities. Their responses to the categories of participation in commonly experienced job functions of conference coordinators reflected their perceptions of their work.

The respondents' replies concerning their jobs have been compared with the judgments of experts in the field, drawn from the literature, as to the criteria for professional performance and role expectations of a conference coordinator. This comparison has yielded information about the undesirable and frustration producing aspects of the role of the coordinator and what role expectations and performance levels are deemed necessary and desirable. The identification of such disparities of expectations was intended to lead to conclusions and recommendations for change, based on this study.

RESULTS

The data indicate that respondents plan most of their conference programs with an individual chairperson who regards the coordinator more as an administrator than an educator. The three greatest barriers to professional performance were identified as lack of time for program initiation, institutional red tape causing delays, and lack of adequate physical facilities for programs. Although the respondents like their present functions, they desire to perform functions identified with the educator role, including initiating and planning new programs and working with faculty in this activity.

In bivariate comparisons of selected variables, the identified barriers to performance were reported as having more effect on coordinators who felt regarded as administrators. Those who perceived themselves regarded as administrators also ranked the educator functions as most desired. The size of the respondents' department affects the ranking of the barriers to performance. Respondents in one-person departments felt regarded more as educators than did those in larger departments. Differences in sex affects the ranking of barriers to performance, and being regarded as an educator. Females felt themselves regarded more as administrators than did males.

A composite set of criteria for professional performance and role expectations, drawn from the literature of six recognized experts, requires knowledge and skills in (1) human dynamics and communication arts; (2) philosophy and principles of adult education; and (3) program detail administration. Higher personal motivation for task accomplishment is also required. These criteria imply an educator status for the coordinator who uses his/her special educational skills and experience in planning and administering conference programs.

DISCUSSION

The respondents in this study have identified that they accepted their present positions because of an interest in adult education and a desire to work with a variety of people in a university or college setting. Most of the functions they perform as coordinators they like doing, but their desire is to be regarded more as educators rather than as administrators. The data indicate that the respondents experience barriers to their professional performance in the form of lack of time for program initiation and development; institutional red tape which causes delay; and the lack of adequate physical facilities needed for conference programs. They want to be able to offer input in conference program planning based on their special knowledge and skills in adult education and adult learning processes.

In addition to the survey data, judgments of experts drawn from the literature in the field of conference coordination have provided a set of criteria for professional performance and role expectations in the form of knowledge and skills in group dynamics and communication arts; in philosophy and principles of adult education; in administering program details; and in maintaining a high personal attitude and motivation.

Disparities and role conflicts are reported in areas including level of educational attainment, program planning types experienced, and coordinator role expectations and practice. These disparities imply that changes need to be made in order to improve the performance of coordinators and the professional service rendered to program sponsors and clientele.

CONCLUSION AND IMPLICATIONS

This study has fulfilled its three-fold purpose: to identify barriers that limit coordinators' professional performance; to identify roles and functions desired by coordinators; and to identify criteria for performance and role expectations based on the judgments of experts in the field.

Respondents have accepted positions in educational institutions which include functions perceived to be those of an educator. Yet they report that they function in their positions as administrators. They also experience frustrating barriers which inhibit their professional performance.

Changes are needed in four areas, therefore, in order to bring the role expectations and desires of coordinators closer to reality in experience:

First, the program planning system should be improved, expecially with the use of a representative planning committee. Dekker[3] describes the conference coordinator as the person who functions at the pivotal points throughout a nine-step conference cycle which must be completed to fulfill the conference format in learning. The coordinator guides the people who are essential in making the conference a rewarding educational experience. This process identifies the coordinator's role as both educator and admininistrator.

Faculty members and other program sponsors should be led to understand the advantages of using a representative planning committee consisting of content experts, clientele representatives, the program sponsor, and the coordinator. Increased planning input from all committee members will lead to better programs.

Second, increased input in planning by the coordinator is called for. Use of a representative planning committee will afford the coordinator an opportunity for input of his/her special knowledge and skills in program planning. Based on a strong academic background and understanding of group dynamics and communication arts, the philosophy and principles of adult education, as well as skills in program administration, the coordinator will be able to function at a higher level of desired professional service.

Third, professional growth and in-service training of coordinators needs to be encouraged, including making funding available for such purposes. Improvement of skills and expansion of desired functions will aid the professionalization process, drawing role expectations and actual functions closer to desired levels.

Fourth, attitude and motivational improvements for coordinators are called for. The current literature in adult and continuing education has bearing on the role expectations and performance of conference coordinators. The role of the adult educator (coordinator) is emphasized as a "change agent" in performing a "helping role". Such a coordinator is involved in an analysis of his/her clients' higher aspirations and the changes required to achieve them. Obstacles are diagnosed that must be overcome. An effective strategy is planned. The educator's part in this process is that of helper, guide, encourager, consultant, and resource. He/she helps individuals satisfy their needs and achieve their goals. Such an adult educator (coordinator) is at the firing-line, working with adult learners on a face-to-face basis.[4]

In what Houle calls "committee-guided group learning," the coordinator leads collective decision-making which aims to make a proposed educational experience more truly cooperative than it would be if planned by a single person.[5] It is such high personal motivation for effective accomplishment of tasks related to adult continuing education programming that causes Siegle to conclude:

> The conference coordinator is...an educator by virtue of what he is as a person; by the way in which he uses his special educational experience to develop or reinforce his own understanding of the teaching-learning process. He is...an educator if he willingly accepts the task of administering his programs with clear educational objectives in mind.[6]

These above changes, when affected, will provide a higher level of satisfaction for coordinators, resulting in an improved level of professional service to both the program sponsor and the clientele.

References

[1] Donald A. Deppe, "The Conference Director as a Boundary Definer of the University," (unpublished Ph.D. dissertation, Department of Education, University of Chicago, 1965).

[2] Chester W. Leather, "Guidelines for the Professional Development of Conference Coordinators in University Residential Centers of Continuing Education," (unpublished Ed.D. dissertation, University of Georgia, 1971).

[3] Tunis H. Dekker, "The Conference Coordinator: Educator-Administrator," Adult Education, XVI, No. 1, 1965, pp. 37-40.

[4] Malcom S. Knowles, The Modern Practice of Adult Education (New York: Association Press, 1970), pp. 22-34.

[5] Cyril O. Houle, The Design of Education (San Francisco: Jossey-Bass Publishers, 1972), p. 109.

[6] Peter Siegle, quoted in Chester W. Leathers, "The Conference Coordinator," in G. J. Goulette, J. Kulich, and A. W. Mueller, eds., The Conference Coordinator: A Compilation of Articles and Presentations on His Role (Boulder: The University of Colorado, Division of Continuing Education, 1971), p. 25.

THE FUTURE OF ADULT EDUCATION: AN INDUCTIVELY DERIVED SCENARIO

Roger Boshier*

INTRODUCTION

The ending of an old (post-war) and the beginning of a new era in adult education was signalled by publication of the Faure (1972) Report and the Final Report of the Third World Conference on Adult Education (Tokyo, 1972). Seven years later it is clear that principles of lifelong education are being adopted and implemented in many countries of the world; definitions of adult and continuing education are being broadened to include activities which formerly were not part of "the system"; many countries are witnessing an unprecedented government involvement in adult education and the passage of enabling legislation; adult educators are subject to increasing pressures to behave in a "professional" manner and to seek training commensurate with their new found importance and obligations. The field is still bedevilled by pressures stemming from marginality (Clark, 1958) but an optimistic outlook appears warranted.

Modern adult education began in 1919 and has passed through several major epochs since then (Cotton, 1968). A new epoch began in 1972 but now rapid change is obscuring clear views of the future. Moreover, predicting the future involves a dilemma since all knowledge is about the past yet all decisions are about the future. Since 1919 the past has been a reasonable guide to the future. Today, rapid change and a possible breakdown of urban-industrial cultures have created a situation where the past is an uncertain guide to the future. Nevertheless it is clear that people in adult education occupy positions where they can influence at least the near or short-term future of the field.

The future can be divided into five periods over which humankind has varying degrees of control (Joseph, 1974). The future starts now and extends forever. However, rather than viewing the future as a foregone conclusion it can be seen as a multiplicity of alternative futures toward which we can move with or without control. These "planning horizons" can be sorted into the Immediate Future (one year from now) which is frozen and largely dictated by the past; the Near or Short-Term Future (1-5 years) which can be partially controlled; Middle-Range Futures (5-20 years) which are almost completely controllable today; Long-Range Futures (20-50 years) wherein an array of alternative opportunities are discernible but only partly controllable today; and Far Futures (50 years and beyond) which are largely invisible and uncontrollable.

It is commonly thought that futures research is wholly aimed at predicting the future. Although much is aimed at producing forecasts with high predictive validity, most futurists are equally concerned with describing alternative futures; their aim is to study trajectories and impacts likely to follow the implementation of contemplated policies. Forecasting is thus aimed at influencing present decisions. The situation was stated directly by de Jouvenel (1973) who observed that "... my purpose has never been to predict the future but to stimulate an awareness that we are responsible for it."

---

* Adult Education Research Centre, Faculty of Education, University of British Columbia, 5760 Toronto Road, Vancouver B.C. V6T 1L2, Canada.

Futurists use varied methodologies ranging from the wildly imaginative to the coldly scientific. Genius forecasting results in scenarios representing the views of (usually) one person; consensus methods rely on the fact group opinions are purported to have more predictive validity than single opinions; simulation methods involve the approximation of future events through the use of mechanical, mathematic or metaphorical models.

A scenario is a narrative of future developments. Scenarios are written in varied ways but in the hands of authors like Ehrlich (1968) they become eloquent hypotheses about the future. Scenarios represent a chilling reminder of dangers associated with contemplated policies (e.g. Kahn, 1960) or offer a variety of desirable future social goals that could be accomplished by pursuing or changing present policies (e.g. Boshier, 1978). Scenarios produced by genius forecasting depend on the insight of the forecaster. The failures of genius forecasting are as spectacular as its successes because, in the end, it depends upon the insight of the author. Scenarios created by writers like Jules Verne, Arthur Clarke, H.G. Wells and Aldous Huxley depend upon the imagination. But systematically, scientifically-derived scenarios reveal the data mix and assumptions employed (low/high population growth, disintegration/unification of Canada).

Inductively-derived scenarios can be built from a variety of data sources. Thus census data showing changes in the age structure of the population have led to scenarios ascribing importance to social gerontology and yield much of significance to both adult educators and advertisers ('the adult only pain reliever'). The present study stems from recognition of the fact futures partly stem from self-fulfilling prophecies and that adult educators' statements concerning future developments probably have greater predictive validity than scenarios based on one person's view of the future. A self-fulfilling prophecy occurs through predicting that something will occur; the act of prediction gives credibility to the anticipated event and often leads to behaviour designed to facilitate its occurrence. Thus if someone predicts that the bank is going broke people rush to withdraw their money, the bank's funds are exhausted and the prophet says "I told you so!" It was recognition of the power associated with the self-fulfilling prophecy that led to reservations concerning the nuclear war scenarios presented by Kahn (1960). In adult education, if key adult educators widely expect an event to occur, the probability of its occurrence is enhanced.

In this study the Delphi technique was employed to achieve a consensus which facilitates speculation about the future. Despite images evoked, the Delphi technique is a simple, if tedious, technique for soliciting and scoring judgments from a group of experts. Its Rand Corporation inventors (Dalkey, 1969) named it after the greatest of the Greek oracles, Delphi. The technique has been used in several studies concerning the future of adult education (e.g. Aitken, 1975; Brunning, 1976) and, although encompassing different objectives and variations in use, usually possesses some key characteristics. All Delphis use panels of experts to provide data; all are conducted in writing using carefully designed questionnaires; all attempt to produce a consensus of opinion; all use iteration and feedback, all are conducted in a series of rounds between which a summary of results from the previous round are communicated to participants. There is a large amount of literature discussing advantages and disadvantages associated with the Delphi technique but the assertions of Ezner et. al (1971) still appear viable. Delphis are usually better than other methods for processing judgmental data because they focus attention on the issue(s), provide a framework for both quiet and noisy individuals to work together on an identical problem and produce precise records.

The purpose of the present study was to employ the Delphi technique with a group of "expert" Canadian adult educators to provide an empirical basis for scenarios concerning the future of adult education. In this sense, the resultant scenarios are inductive rather than deductive.

METHOD

Compiling the Delphi Forms

One hundred Canadian adult education "opinion leaders" were mailed a letter asking them to "provide items for the first round of a Delphi." Attached to the covering letter were three pages. The first said "We are asking for your opinion concerning the future. There are no right or wrong answers. All we seek are educated guesses about the future. Your answers may be brief or lengthy. There is no need to justify your answers. Just list them as they occur to you." In an effort to focus responses around five major areas, respondents were asked to list three developments "which, by 1985" will influence:

1. The global context for continuing education.
2. The future of continuing professional education
3. The future functions of Canadian ... continuing education
4. The future of program planning and delivery
5. The place of continuing education in the Univ. of the Future.

The covering letter asked respondents to "speculate about the future. Your answers may be broad or narrow. They may range from the very probable to the highly improbable. In trying to describe the future do not be overly constrained be present day concepts and operations." Respondents were also informed that "your responses are confidential. The number you see on the first page will enable us to check off questionnaires as they are returned. Because we will attempt to elicit a high response rate we need some way of contacting non-respondents."

The 100 "opinion leaders" were Canadian Professors of Adult Education listed in Boshier & Thiesfeld's (1978) directory and leading members of the Canadian Association for University Continuing Education. The 1978 executive members of CAUCE were excluded as they had been familiarized with the purpose of the study and would subsequently be involved with scoring Delphi data.

Each respondent in this first phase was asked to list developments associated with each of the five issues (global context for continuing education, continuing professional education, Canadian university continuing education, program planning and delivery, organization of continuing education).

Fifty-eight questionnaires were returned. Responses to each "issue" were listed. Many of the responses were overlapping but all were listed exactly as written in the questionnaires. Some responses were short ("there will be a recession"); others were lengthy and spilled onto extra pages. In all, 109 developments influencing the global context for continuing education were listed; 117 developments influencing the Canadian context were listed; 114 developments influencing program planning were listed along with 111 influencing continuing professional education and 121 influencing the organization of continuing education.

Subsequent rounds of the Delphi process were to occur at the Annual Conference of the Canadian Association for University Continuing Education. Thus it was necessary to reduce the 572 responses to a manageable number without sacrificing their comprehensiveness. This was achieved with the assistance of 18 students from the Concordia University (Montreal) Andragogy program. Each reason was listed on a separate piece of paper and sorted into inductively-derived categories. 5" x 8" cards were used to identify the central theme of each category. The students worked in groups of five. Each group member had to agree to a sorting decision before the item was assigned to a category. Items which on an initial sort could not be assigned to an existing category were put aside and then re-sorted when categories had been clarified. Groups were instructed to create as many categories as were needed to accommodate all items; developments pertaining to issue one were sorted into 20 categories; issue two items were sorted into 14 categories; issue three items were sorted into 22 categories; issue four items into 12 categories and issue five items into 13 categories. Some categories (such as "paid educational leave") contained numerous items saying the same thing; other categories contained only one or two responses.

In view of the fact the Delphi would be iterated at a conference it was necessary to write about 25 items for each issue which represented as faithfully as possible categories emerging from the previous phase. The author worked alone on this task and strived to capture the central meaning of "developments" as classified into categories. The resultant items were shown to the students involved in sorting. They were asked to identify items which failed to capture the central meaning of the previously sorted "developments".

These processes resulted in 25 items concerning the global context for continuing education, 25 concerning continuing professional education, 25 concerning future functions of Canadian continuing education, 29 concerning program planning, and 25 concerning administrative and conceptual arrangements for continuing education. Items were cast on a five-point scale like this:

> To what extent will the events listed below develop as features influencing the future of adult education?
>
> On each scale circle one number to indicate the direction and future of the trend as it will have emerged by 1985. Circle one number for each item. There are no right or wrong answers.
>
> Issue One: Global ... Contexts for Continuing Education (25 items)

	Increase Strongly	Increase	Remain Essentially The Same	Decrease	Decrease Strongly
1. Economic recession will	5	4	3	2	1
2. Food shortages and food shortage programs will	5	4	3	2	1
3. Recognition of global interdependence (spaceship earth thinking) will	5	4	3	2	1
4. The role of international adult education organizations will	5	4	3	2	1

Administering the Delphi Forms

Previous experience during Delphi studies suggested that up to four or five rounds might be required to achieve consensus. The second, third and, if necessary, fourth rounds of the study were to be conducted with participants at the 1978 Annual Conference of CAUCE held in Moncton, New Brunswick. To facilitate logistics at the Conference, forms for the second and third rounds were printed on yellow paper, forms for the fourth round were printed on white paper and forms for a possible fifth round on green paper.

The conference was organized around the theme "Towards 1985". As participants arrived at the registration desk they were handed the yellow Delphi form and asked to complete it prior to the opening of the conference and the keynote address. Conference staff printed the name of each respondent on the top of their Delphi form (it would laterbe necessary to score each form and return it to the respondent for third round responses). As the conference theme was on the future, it was likely that participants' perceptions of the future would be altered by conference events. Although convergence of opinion was expected, it was considered desirable to keep "second round" responses uncontaminated by conference events. Thus the keynote speaker delayed his speech for a short period while late-arriving participants completed the yellow Delphi form.

The keynote speech was organized around a model showing the anticipated future functions of continuing education. Although the written version of this speech contains twenty pages of detailed scenarios describing adult education processes, these were not read out or discussed prior to completion of the yellow Delphi forms. During the lunch break following the first morning of the conference the yellow forms were scored.[1] Modes for each item within each issue were shown as a square. Thus, when respondents were handed back their yellow forms (after lunch) items and responses were displayed like this:

32. The number of continuing education contracts made between universities and business will   5 $\boxed{4}$ 3 ② 1

---

[1] Thanks are due to Tom Parker, Charles Lockwood and all the other CAUCE stalwarts who participated in this boring task.

The circle was the participant's first response; the square represents the mode (most frequent score) of the entire group. During the afternoon participants were broken into five groups structured around the five issues (global context and so on) in the Delphi form. Each group was led by a person who had been briefed by the researcher. This briefing was reinforced by a leader instruction sheet which said:

> During the workshops participants have a Delphi form which shows the mode (for the entire conference) for each item as well as their own score. To evoke discussion, participants should be asked to turn to their chosen issue (global context, continuing professional education, and so on). Participants with a rating which does not conform to the modal rating could be invited to justify their response.
>
> About fifteen minutes before expiration of the time assigned to the workshop, animateurs should say the following:
>
> "Please turn to issue one on the front page of your Delphi form. You will notice that the mode for each item is indicated by a square. Using the red pencil supplied make another response. Because we are seeking consensus you are invited to join the majority by circling the mode (where the square is).... If you are unwilling to join the majority please use the red pencil to make a response which represents your view and make a brief note - on the line under the item - indicating why you are unwilling to join the majority. Of course you are entitled to your opinion, but if it deviates from the majority we want to know why. Now complete the entire form - issue one to issue five".

At 4:00 p.m. participants left their small groups and returned to a plenary session where new modes were calculated. Respondents then handed in their yellow forms. The following morning (June 15) respondents attended another plenary session where group leaders reported the "findings" of the groups that had met the previous day. At the start of this session, participants were handed another (white) Delphi form and asked to record item modes which were read out. Five group reports were presented; at the end of each report covering each issue participants were asked to complete the Delphi form. During this fourth round participants were encouraged to conform to the mode or supply written reasons - on the line provided for this purpose below each item - explaining non-conforming responses.

RESULTS

Response Rate

Delphi studies require people to respond several times to what is essentially the same questionnaire. When Delphi forms are mailed, respondents who drop-out midway through the iteration process pose a considerable problem; in conference environments the iteration process takes less time but people still drop-out. Sixty participants responded to the second round (first at the Conference) of the present study; 60 responded during the third round; 48 responded during the the fourth round. Although twelve "first-day" respondents were absent during the second day (when the last round was completed) 48 was considered sufficient for data analysis purposes.

Data Analysis

The Delphi form consisted of 129 items describing developments predicted to "increase" or "decrease" by 1985. Items were clustered to reflect developments pertaining to five areas such as global contexts for continuing education, the future of continuing professional education and suchlike. A mean, mode, index of kurtosis, S.D. and median was produced for each item in each round. These are displayed in Table 1 which, because of space limitations, is not shown here but is available at A.E.R.C. or from the author. Because of space limitations only the results from round four (the last iteration) are discussed here.

Issue one yielded 23 (out of 25) items with a mode of four, indicating that global context "developments" were predicted to "increase". Fourteen issue-one items yielded means greater than 3.8; only three had means less than three (suggesting "developments" described in these items will decrease). S.D.'s ranged from a low of .20 to a high of .88. Factor analysis of second round responses to issue one items was conducted to examine the extent to which responses were consistent across all 25 "global context" items. Prior to rotation, eighteen items had positive and seven items had negative loadings on the first unrotated factor (which accounted for 21.55 per cent of the variance). After orthogonal rotation the first factor contained seven items with loadings greater than .40; this factor consisted of items concerning the need to adopt principles of bio-spheric equilibrium and lifelong education. In meaning it is close to the notion of personalism as developed by Roszak (1978). The second factor consisted of four high loading items concerning education in the Third World.

Issue two (Continuing Professional Education) consisted of 20 (out of 25) items with means greater than 3.8; all but two items had a mode of four. S.D.'s ranged from a low of .14 to a high of 1.00. Thus, nearly all the listed "developments" pertaining to continuing professional education were predicted to increase. The exceptions were a "disenchantment with compulsory continuing education" which is predicted to decrease and "demands for...compulsory continuing education" and "the probability of creating a national educredit or educational voucher system" which are predicted to "remain essentially the same." Factor analysis of issue two items produced a first unrotated factor accounting for 21.19 per cent of the variance which had positive loadings on all but two of the 25 items; this indicates the presence of a general factor and a high degree of inter-correlation between items.

Similar analyses were applied to data concerning the remaining three issues. Space precludes further presentation of these results but, in brief, it appears that the immediate future of Canadian continuing education is assured. Respondents agreed that nearly all the 129 developments presented in the Delphi form would "increase." If the consistency of their responses (as indicated by low S.D.'s) are not a function of response set, acquiescence response bias, wish-fulfillment or ignorance, the probability of these developments occurring is high because most of the respondents occupy positions from whence they can influence future developments. At worst their responses may represent a pooling of ignorance. But the mere fact these respondents are expecting the developments to occur is of considerable significance because of the demonstrated power of the self-fulfilling prophecy.

Although the Delphi survey resulted in what appeared to be clear judgments concerning the immediate future of adult education, the data and conclusions should be interpreted with caution. The CAUCE "experts" closely resembled the group that provided the items so they came to consensus very quickly. Indeed, examination of items means, modes and S.D.'s from rounds two, three and four reveals some convergence of opinion but no significant shift from group opinions as expressed during round two. Participants considered most developments would increase; the data was thus positively skewed. The average S.D. for issue one was .44; for issue two it was .38; for issue three .40; for issue four .43; and for issue five .44. Considering the fact responses could range across a five-point scale these S.D.'s appear low; it appears that the CAUCE group was homogeneous and likeminded.

Of the 60 respondents (in round two) 41 were men and 19 were women. As a group CAUCE members tend to be employed as programmers or administrators in extension divisions of universities or colleges. All occupy positions where they can influence the future of Canadian continuing education. In the absence of data to the contrary it is assumed that the 60 respondents at the Conference are "experts" and well-informed about the issues confronting the discipline and field of adult education. But there is no data to refute or confirm this claim so it must be treated with considerable caution.

Coupled with this is the fact Delphi responses are often snap judgments which are affective rather than cognitive and might have less predictive validity than forecasts based on scientific study of "objective" data. This worry is partly offset by the fact that attitude change literature (e.g. McGuire, 1969) suggests that central processes occurring when persons respond to attitude or Delphi items can be analysed into two sequential stages. The first is an immediate, emotional response to the central issue in the item. The second phase involves suspension of judgment while qualificatory details of the statement are examined. During the data collection process several respondents complained about the exertion of pressure to conform to the mode and the brief periods of time elapsing between iterations. Responses during the second round were of a cognitive nature but subsequent rounds may have elicited judgments involving an immediate affective response. However, as Wilson, et. al (1973) have argued, this first affective response has as much predictive validity as one arising from the cognitive phase.

Despite these methodological questions this study has resulted in the creation of provocative scenarios describing the future of adult and continuing education. Although the study was conducted in Canada the resultant scenarios are plausible, internally consistent and have utility for adult educators in other countries. Space limitations did not permit presentation of the scenarios in this summary; they are available from the author. Scenarios arising from this study are based on empirically derived data rather than the imagination of a genius forecaster. As adult educators are basically architects of their own future, it would be interesting to unearth the scenarios a decade from now to examine the extent to which the Delphi process yielded data with predictive validity. However, even if the predictive validity of the process is low it has identified a series of alternative futures which adult educators can reject or pursue by adjusting present policies. The study thus has the potential to influence present decisions.

REFERENCES

Aitken, M. The Future for Adult Education in British Columbia: A Delphi Forecast. Unpublished M.A. thesis, Adult Education Research Centre, University of British Columbia, 1975.

Boshier, R.W. The Future of Adult and Continuing Education: Purposes and Issues. Paper presented at the Annual Conference of the Canadian Association for University Continuing Education, Moncton, 1978.

Boshier, R.W. & Thiesfeld, B.J. Professors of Adult Education in Canada: A Directory. Vancouver: Adult Education Research Centre, 1978.

Brunning, R.L. Skills and Knowledges for the Adult Educator: A Delphi Study. Paper presented at the Adult Education Research Cenference, Toronto, Canada, 1976.

Cotton, W.E. On Behalf of Adult Education: A Historical Examination of the Supporting Literature. Boston: Center for the Study of Liberal Education for Adults, 1968.

Clark, B. The Marginality of Adult Education. Chicago: Center for the Study of Liberal Education for Adults, 1958 (Notes and Essays No. 20).

Dalkey, N.C. The Delphi Method: An Experimental Study of Group Opinion. Memorandum RM-5888-PR. Santa Monica: Rand Corporation, 1969.

de Jouvenel, B. Personal Communication to H.J. Strauss, 1973. Cited by Strauss, H.J. and Zeigler, L.H."Delphi, Political Philosophy and the Future." Futures, 1975, 184-196.

Ehrlich, P. The Population Bomb. New York: Sierra Club, 1968.

Enzer, S., Boucher, W.I. and Lazer, F.D. Futures Research as an Aid to Government Planning in Canada: Four Workshop Demonstrations. Middletown: Institute for the Future, 1971.

Faure, E.(Chairman) Learning to Be: The World of Education Today and Tomorrow. Paris: UNESCO and Harrap, 1972.

Joseph, E.C. "What is Future Time?" The Futurist, 1974, 13, 4, 178.

Kahn, H. On Thermonuclear War. Princeton: Princeton University Press, 1960.

McGuire, W.J. "The Nature of Attitudes and Attitude Research." In Lindzey, G. and Aronson, E. (Eds.) Handbook of Social Psychology, Vol. 3 London: Addison-Wesley, 1969.

Roszak, T. Person/Planet: The Creative Disintegration of Industrial Society. New York: Doubleday, 1978.

UNESCO. Third International Conference on Adult Education, Tokyo, July 25-August 7, 1972: Final Report. Paris: UNESCO, 1972.

Wilson, G.D. (Ed.) The Psychology of Conservatism. London: Academic Press, 1973.

THE RELATIONSHIP OF AGENT SELF-ACTUALIZATION AND GROUP TRAITS TO GROWTH IN COMMUNITY PROBLEM SOLVING GROUPS

Ronald M. Jimmerson
Assistant Professor of Agriculture & Adult Education
Washington State University

Introduction

Citizen community problem solving groups are recognized as an effective means of dealing with many new and complex social and economic problems facing communities today. These groups also provide a setting with great potential for promoting growth of the groups themselves as well as personal growth of the individuals who make up the groups. With the assumption that adult educators should strive to promote the growth of problem solving groups and growth of individuals in those groups, an exploratory study was undertaken to examine factors affecting such growth (12). This study undertook, as its main focus, to study the relationship of adult educators' personality characteristics to individual and group growth in community problem solving. Since the study was exploratory in nature, several group traits were also examined in relation to group and individual growth. Following is a closer examination of each set of variables explored in this study.

Dependent Variables

The two major dependent variables of this study were group growth and individual growth. Since these are very broad concepts, only specific aspects of each were examined.

Group Growth

The aspect of group growth examined was termed "Group Interdependence." An interdependent group was defined as one which coordinates the efforts and contributions of individual members through the authority of shared ideas and actions. This concept of group growth was based on writings of Thelen (19), Schein (16), Bennis and Shepard (3), and Bennett (2). It includes the following aspects: (1) Participation--the extent to which group members participated in group decisions and actions; (2) Leadership--the degree to which leadership was shared in the group; (3) Power--the extent to which power in the group was shared by all members; and (4) Agent-Group Interdependence--the extent to which the agent had an interdependent relationship with the group.

Individual Growth

Individual growth, as examined in this study, was based on one aspect of growth identified by Coggins (7) in her study of growth occurring in community problem solving. This aspect, termed "Stance Toward Self" stood out as an aspect often affected by community problem solving. This category of growth has general reference to changes in individuals' perception of themselves. Three specific aspects of Stance Towards Self were examined: (1) self awareness, (2) feelings of self worth, and (3) desire for self development.

Independent Variables

Two major sets of independent variables were examined in relation to group and individual growth. They are described below.

Reprints may be obtained by writing to Ronald M. Jimmerson, 323C Ag Phase II, Washington State University, Pullman, Washington 99164.

Agent Personality Characteristics

Several authors including Biddle and Biddle (4), Franklin (10), Combs (8,9); and Rogers (14) discuss personal characteristics of successful educators (those able to promote growth). They suggest the effective educator is one who has a positive self image; a positive view of and concern for others; and a focus on the development of problem solving processes rather than merely problem solutions. They describe the effective educator as dynamic, self motivated, independent, responsible, creative, trusting, present-oriented (rather than past or future oriented) and able to deal with conflict. These characteristics are very similar to those described as self-actualizing by Maslow and others. Maslow (13) describes a self-actualizing person as one who has an orientation toward growth, i.e. a process of actualizing potentials, capacities, and talents; fulfilling of one's mission; gaining fuller knowledge of and acceptance of one's own intrinsic nature; an unceasing trend toward unity and integration or synergy with oneself. The concept of self-actualization was used as the basis for examining educator personality characteristics.

Group Traits

Several authors, including Thomas and Fink (20), Salter (15), Hare (11), Archer (1), Campbell (5) and Coggins (7), suggest certain group traits or characteristics are related to the individual or group growth resulting from group activities. The following traits were examined in this study: problem complexity and success of the group as rated by the extension agent; group size, age, and frequency of meetings; importance of the problem, member's level of involvement in the group, percent of meeting attended, familiarity of members with one another, member's influence in the group and member's satisfaction with the group progress as rated by the members; average member age; involvement in other problem solving groups; and member's tenure in the group.

RESEARCH METHODOLOGY

The Sample

Twelve rural community problem solving groups working with the University of Wisconsin extension agents were studied. The groups were at various stages in the problem solving effort but all groups had been working with the extension agent for at least six months. The data were collected during March, 1977.

The groups were selected on the basis of several criteria: (1) they were located in a rural area ("rural non-metropolitan" designation of U.S. Government Census Bureau), (2) they worked closely with an extension agent, and (3) they met to find solutions to a certain community problem. The groups studied worked on several different community problems.

Operationalizing the Variables

Extension agent personality characteristics were measured using a widely accepted measure of self-actualization--the Personal Orientation Inventory developed by Everett Shostrom (17). This is a self-report instrument consisting of 150 two-choice comparative value judgements. The items are scored for two major scales of personal orientation: (1) inner support which is the tendency of a person to act on and be guided by his/her own principles and motives in contrast to responding to a wide variety of pressures; (2) time competency which is the tendency of a person to live primarily in the present, free of hangups over past events and future uncertainties.

A self-report, five point Likert-type scale was developed to measure the aspects of group and individual growth. The group interdependence items were developed on the basis of a careful reading of several authors and on information provided by Campbell's case studies of group growth in community problem solving (5).

Group trait scores were obtained from three sources: (1) the size and age of the group, and frequency of meetings; (2) problem complexity and success of the group as rated by the extension agent; (3) importance of the problem, member's level of involvement, percentage of meetings attended, familiarity of members with one another, member's influence in the group, and member's satisfaction with the group process as rated by the group members. A group score for each of these latter traits was obtained by computing the mean of the individual member's responses.

The composite instrument used to collect data on group growth, individual growth and group traits was validated through feedback from several "experts" with considerable experience in working with community groups. Two pretests were carried out to refine the instrument. The early drafts of the instrument were developed with a larger number of items than desired. After the final pretest, approximately one third of the items were eliminated on the basis of correlations computed to determine internal consistency. The remaining items had a mean correlation within each scale ranging from .51 to .80 on the pretest groups and .52 to .78 on the target groups. These correlations provide the major evidence for instrument reliability.

Study Design

Since the interest of this study was in naturally occurring rural community problem solving groups, an exploratory study was done using what Campbell and Stanley (6) term a "static group comparison design." That is, groups were compared on the basis of growth measures taken at one point in time. The major phases of the research were as follows: (1) problem solving groups were selected, (2) the Personal Orientation Inventory was administered to the extension agents and the composite group and individual growth instrument was administered to the group members to obtain self-actualization and growth scores respectively, (3) the scores were correlated to determine relationships between participant perception of growth and: (a) agent self-actualization and (b) group traits as shown in Table 1.

In addition to the empirical data provided by the various instruments administered, additional "qualitative" data were obtained through interviews with the agents. These interviews served several functions: (1) they provided some of the group trait data, (2) they provided a cross check on the quantitative data, (3) they provided insights on other possible factors affecting group and/or individual growth.

Because the goal of this study was to point out major trends in relationships, the level of significant was set the .10 level.

RESULTS

Agents' Level of Self-Actualization

The twelve extension agents studied had a wide range of scores on the Personal Orientation Inventory. Two agents fell within the range of scores considered self-actualizing, and four had scores far enough below the adult norms[1] to be considered nonself-actualizing. More than half the agents scored below the adult norm mean for the two major scales.

Relationship of Agent Self-Actualization to Growth

Though in general not significant, the agent self-actualization scores correlated with the group interdependence scales in the expected positive direction. The relationship was significant at the .10 level in only one case, time compentency (one of the two major POI scales) had a significant positive relationship to agent-group interdependence (see Table 1). This suggests that agents who tend to live life for the present (as opposed to living in the past or for the future) are able to establish an interdependent relationship with their group. That is, they tended to share leadership responsibilities and decision making with group members).

Like group growth, individual growth of members in the group had a generally low positive correlation to agent self-actualization scores. No relationships were significant, however.

Relationships of Group Traits to Growth

Group traits appear to have a stronger relationship to group and individual growth than does agent self-actualization. Following are the major relationships found:

1. Group size had a strong negative relationship to all group growth scales.
2. There was a strong positive relationship between importance of the problem as rated by the group members and their individual growth.
3. When members rated their involvement in the group as active or very active, both group and individual growth was very high.
4. The higher the average percent of meetings attended by members, the higher the group and individual growth scores.
5. Member influence in the group was positively related to group and individual growth.
6. The agent interview data suggest the following factors promoted group and individual growth: (a) small group size, (b) membership made up of citizen leaders, (c) members committed to the problem, (d) personal relationships of agents with group members outside of group meetings, (e) advance planning and followup of meetings, (f) long tenure of agent in the county, and (g) agent's ability to mediate disagreements.

Discussion

In general, one must conclude that level of self-actualization of the extension agents had little effect on group or individual growth as studied here. Group and individual growth as measured here appear to be more directly related to group and individual member characteristics than they were to agent personality.

These findings suggest that adult educators should focus on getting people involved in the community problem solving effort to the greatest extent possible. Group size should be kept small so that all members have opportunities for interaction.

---

1. These norms were originally based on scores of 2,607 entering college freshmen. Norms subsequently established for various "normal" adult groups are very similar (24:20-22).

The adult educator should do what he/she can to help group members see the importance of the problem, and become deeply involved in its solution. The educator's actions outside the group appear to be as important as what happens during group meetings.

The interview data suggested that the successful educators planted ideas, encouraged members, discussed the group problem and generally kept the interest of the members alive between meetings. These actions probably account in part for high attendance at meetings and promotion of members' involvement in those groups scoring high on the group and individual growth scales. The advance planning and followup of meetings appeared to provide members with feelings of accomplishment and also contributed to involvement and satisfaction with the group progress. Longer agent tenure in the community appeared to measure a level of trust established with the group members. The evidence obtained from agent interviews suggests that the agents studied here did not program for group interdependence or promotion of individual growth. The intent to do so appears to be a serious missing ingredient in the groups studied.

Table 1

RELATIONSHIP BETWEEN MAJOR DEPENDENT AND INDEPENDENT VARIABLES

	Overall Group Interdependence	Agent-Group Interdependence	Overall Individual Growth
Agent Self-Actualization Scales			
Time Competency	.19	.57*	.23
Inner Support	.11	.23	.03
Group Traits			
Data from Agents			
Problem Complexity	.10	.53*	-.02
Success of Group	.43	.33	.10
Group Size	-.80**	-.51	-.25
Group Age	.32	.24	.14
Meeting Frequency	.15	-.04	.19
Data from Members			
Importance of Problem	.39	.11	.55*
Involvement in Group	.64**	.52*	.65**
% of Meetings Attended	.73***	.25	.76***
Familiarity of Members	-.04	.35	-.05
Influence in Group	.55*	.41	.49
Satisfaction with Group	.21	.14	.10

*Significant at .10 level
**Significant at .05 level
***Significant at .10 level

REFERENCES

1. Archer, Dane. "Power in Groups: Self Concept Changes in Powerful and Powerless Group Members," Journal of Applied Behavioral Science, Vol. 10, No. 2, 1974, pp. 208-219.

2. Bennett, Austin E. Reflections on Community Development Education. Orono, Maine: PICS, University of Maine, 1973.

3. Bennis, Warren G. and Herbert A. Shepard. "A Theory of Group Development," Human Relations, Vol. IX, No. 4, pp. 414-437.

4. Biddle, William W. and Loureide J. Biddle. The Community Development Processes. New York: Holt, Rinehart and Winston, Inc., 1966.

5. Campbell, M. Donald, Jr. "An Exploratory Study of the Relationship Between Adult Educator Functions and Growth in Community Problem Solving." Unpublished Ph.D. dissertation, University of Wisconsin, 1976.

6. Campbell, Donald T. and Julian C. Stanely. Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally and Co., 1963.

7. Coggins, Chere Campbell. "Toward a Definition of Individual Growth in the Rural Community Problem Solving Context." Unpublished Ph.D. dissertation, University of Wisconsin, 1976.

8. Combs, Arthur, et. al. Florida Studies in the Helping Professions. Gainesville: University of Florida Press, 1969.

9. Combs, Arthur W., Donald L. Avila and William W. Purkey. Helping Relationships: Basic Concepts for the Helping Professions. Boston: Allyn and Bacon, Inc., 1971.

10. Franklin, Richard. Toward the Style of the Community Change Educator. Washington, D.C.: National Institute for Applied Behavioral Science, 1969.

11. Hare, A. Paul. Handbook of Small Group Research. New York: The Free Press, 1962.

12. Jimmerson, Ronald M. "The Relationship Between the Adult Educator's Self-Actualization and Growth in Community Problem Solving Groups." Unpublished Ph.D. dissertation, University of Wisconsin, 1977.

13. Maslow, A.H. The Farther Reaches of Human Nature, New York: The Viking Press, 1971.

14. Rogers, Carl. Freedom to Learn. Columbus, Ohio: Charles E. Merrill, 1969.

15. Salter, P.E. "Contrasting Correlates of Group Size," Sociometry, 1958, Vol, 21, pp. 129-139.

16. Schein, Edgar H. Process Consultation: Its Role in Organization Development. Reading, Mass: Addison-Wesley Publishing Co., 1969.

17. Shostrom, Everett. "An Inventory for the Measurement of Self-Actualization," Educational and Psychological Measurement, Vol XXIV, No. 2, 1964, pp. 207-217.

18. Shostrom, Everett, Manual for the Personal Orientation Inventory, San Diego: Edits Publishers, 1965.

19. Thelen, Herbert. Dynamics of Groups at Work. Chicago: The University of Chicago Press, 1954.

20. Thomas, E.J. and C.F. Fink. "Effects of Group Size," Psychological Bulletin, 1963, Vol. 60, No. 4, pp. 271-384.

225

The Relative Effects of a Patient-Centered Education Program on a Person's Adaptability to Living with a Chronic Disease

Judith L. Johnson, RN, MPH
North Memorial Medical Center

Introduction

Helping adults learn and adapt to a changing world has become an increasingly widespread and important activity in contemporary American society. Whereas for many decades the major focus of most educational programs was on the large percent of individuals in the child and adolescent cohorts of society, current population trends toward an older population have increased the demand and necessity for education programs for adult learners.

Although evident in all fields of education, the growing interest is especially noted in the areas of health education. Health education, a component of the total health care programs is a process by which individuals and communities acquire knowledge, attitudes, and behavior which influence the maintenance and promotion of health (Roberts, 1976). Educational theory, psychological principles, and the active participation of individuals in their own health care are the necessary elements of health education.

An integral part of an overall health education program is patient education which may be defined as health education in the hospital setting. The goal of patient education is to provide individuals with instruction and information that will assist them in achieving and maintaining an optimum state of health. The process consists of a series of organized health educational experiences, planned by physicians, professional health workers, and the patient himself to meet the patient's specific learning needs, interests and capabilities, and offered as an integral part of the patient's total health care (Ulrich, 1972). Prerequisites of the program are that it must be planned, supported, and implemented in a manner in which all aspects of patient care are considered. These experiences include the interaction of the various components of the health and medical care delivery system, the type of illness, and the educational process.

Purpose of Study

This study was conducted in order to measure the effects of a structured patient-centered educational program on a chronically ill person's knowledge of specific aspects of their disease and its ramifications. The questions of how an education program can contribute to the rehabilitation process

---

Judith L. Johnson, RN, MPH, Oncology Department Coordinator, Cancer Services, North Memorial Medical Center, 3220 Lowry Avenue North, Minneapolis, Minnesota, 55422, (612) 588-0616 ext. 541.

228

of chronically ill persons was central to this study. The underlying assumption of the study is that the process of rehabilitation can be accelerated by increasing patients' knowledge of the latest health care practices encompassing their disease.

Rehabilitation emphasizes the restoration of individuals to optimal function performance in the face of chronic disease, and the reintegration of the individuals into the affairs of daily living and society commensurate with the limitation imposed by the disease process (Madden, 1977). A significant component of rehabilitation is the modification and adaptation of behavior to meet the demands imposed by the disease. This requires the learning of new behavior on the part of the patient. Thus, implementation of an educational program for patients is an appropriate element in the rehabilitation process of a chronically ill person.

Inclusion of educational programs in the rehabilitation process of chronically ill persons is supported by research findings. Data indicate that when patients are adequately informed and included in the educational process regarding their own treatment and care, they have fewer hospital readmissions and shortened stays (Rosenberg, 1971; Avery, 1972). Patients also adhere better to their diets and follow the doctors' orders more closely. Specific educational intervention has been shown to lead to reduced use of post-operative narcotics (Egbert, 1964). Anxiety and stress were also reduced (Lindemen;Pratt, 1971).

Research in the psychosocial health care field has found that a person's state of anxiety and sense of meaning in life appear to be related to how a person functions in the face of illness. Patients who held a strong negative feeling about their illness had less hope, were more anxious, and had little faith in the competence of their physician (Schwab, et. al., 1973). DiBartalo (1969) concluded from his study that anxiety level was a significant factor for success in the rehabilitation program of persons treated for head and neck cancer. It has also been demonstrated that information about many aspects of disease and their medical treatments has reduced patients' anxiety and in some cases has made the difference between whether or not a patient sought additional treatment (Gillum, 1974). Other studies have shown that a reduction in patient anxiety favorably affected their health related behaviors (Verstraete and Meier, 1973). O'Neill (1975) found that feelings of helplessness and loss of control were very real for persons with a life threatening disease. Crumbaugh (1973) reported that when people must yield to an altered life style they experience a loss in sense of meaning and purpose in life which in turn affects their sense of actualization and source of energy. He has suggested that new values and reasons for living must be explored or otherwise people will degenerate into a state of helplessness and despair.

Although health care professionals may be exploring alternative methods of teaching patients about their illness, specific educational programs are lacking. Questions regarding the type and amount of information given to patients, the effects on patients of new knowledge, and the personnel involved in the teaching are yet to be answered.

This study was designed to answer the following questions:

1. As a result of a structured educational program will there be a significant difference between the treatment group and the control group in:
    a. the self-reported state of anxiety?
    b. the amount of knowledge each group has about the chronic disease and its ramifications?
    c. perceived purpose and meaningfulness in life?

Study Design

The subjects (N=52) for this study were randomly selected from a group of persons ages eighteen and older who have been newly diagnosed or rediagnosed within the year as having the chronic disease, cancer. The subjects were drawn from a population of patients receiving treatment from private hospital out-patient care settings. All participants were measured by means of objective test on three dependent variables. These were: 1) anxiety, 2) meaningfulness in life, and 3) knowledge. Individuals were paired by means of cluster analysis using pretest scores on three criterion variables with consideration given to age and sex. A member of each pair was then assigned randomly to either the treatment or the control group. These same test measures were administered to all subjects at the completion of the course.

The treatment group attended eight ninety-minute structured educational sessions over a period of four weeks. The topics covered in the session of the I CAN COPE course were: 1) learning about the disease, 2) coping with daily health problems, 3) communicating with others, 4) liking yourself, 5) living with limits, and 6) finding resources that can help. The additional two sessions were used for an introduction to the course and an evaluation of the sessions.

Each session had goals and learning objectives. Specific study assignments were given at the conclusion of each class session. A learning resource center was available for the treatment group and students were encouraged to use the materials to increase their knowledge.

During the eight treatment sessions, the control group subjects met as needed with their physician or other health care personnel. They were neither exposed to the structured learning experience nor the learning resource center. Both the control and the treatment groups continued to be exposed to whatever casual information was given to them by the care professionals.

Analysis of the data was done by using several statistical procedures. Difference in the change scores on the pre and post tests of each matched pair were analyzed using Hoteling's T^2 Test on the differences in changes. In addition, a multivariate and univariate analysis of variance and covariance were used to analyze the data. Pre/post change scores on the criterion variables anxiety, meaningfulness in life, and knowledge served as the multiple dependend variables.

An auxillary study on subjects in the treatment group assessed the strengths of associations between the utilization of learning resource materials and outcome change scores on the dependent variables. A Pearson correlation was used to determine this relationship.

Study Results

The statistical data showed that a patient education course does have a significant effect on patients level of state anxiety, knowledge about their chronic disease and its ramifications, and their perceived meaning in life. The Hoteling's T^2 statistic was significant at the .001 level. The multivariate factorial analysis showed that over one-half of the variation in scores could be attributable by assignment to either the treatment or control group. No significant relationship was found to exist between test scores of persons in the treatment group and their utilization of learning resource materials.

Subjective data was obtained by skilled interviewers who conducted taped interviews with ten patients before and after the course (Miller and Nygren, 1978). The "Coping Strategies Scale", developed by Weisman and Worder, was used to judge changes in attitudes and reactions to having cancer. Three professionals independently classified the predominant concerns thus providing interrater reliability. The results showed that the course gave the subjects a greater appreciation of life and a more positive attitude toward living.

Conclusion

This study gives experimental evidence concerning the use of a structured educational program as part of the rehabilitation program for persons who must adapt to living with a chronic disease. Study results strongly suggest that an organized teaching program does alter a cancer patients'level of anxiety, knowledge about their disease and sense of meaning in life.

The implication of this study, when combined with the previously reviewed research, is that patient education is a key factor toward assisting people to develop realistic expectations and attitudes toward adjusting to changes created by illness. The patient education course, developed as part of this study, fulfills one of the fundamental functions of adult education: to keep balance between people and circumstances. It is a learning activity that allows people to cope with and function in a highly unpredictable situation of their adult life. Educators can help adults increase their understanding and competence for dealing with changes imposed upon them. This study has been shown to meet the goal of an organized patient education program, in that it has helped adults to acquire new knowledge, attitudes, and behaviors that will improve their ability to adapt to living with a chronic disease.

Through the financial support of the Minnesota Division of the American Cancer Society, this structural patient education course has been prepared as a training package for utilization with cancer patients. This package, called I CAN COPE contains all the resource materials an institution would need to set up its own program.

The National Office of the American Cancer Society is replicating the training package for nation wide distribution. The ultimate goal is to give all health care institutions the capability of offering this education program to their cancer patients.

BIBLIOGRAPHY

Avery, C., L. W. Green and S. Kreider, President's Committee on Health Education, Regional Hearings, Pittsburgh, January 1972.

Crumbaugh, J. C., Everything to Gain, Nelson-Hall Company, Chicago, 1973.

DiBartolo, R., "Self Concept and Attainment of Esophageal Speech", Microfilms #69-20, 576, 1969.

Egbert, L. D., G. E. Battit and C. E. Welch, "Reduction of Postoperative Pain by Encouragement and Instruction of Patients," New England Journal of Medicine, April 16, 1964, pp. 825-827.

Gillum, R. F., "Patient Education, " Journal National Medical Association, Vol. 66, 1974, pp. 156-158.

Lindeman, C. A. and Pratt, "Nursing Intervention with the Presurgical Patient: The Effects of Structured and Unstructured Preoperative Teaching," Nursing Research, July-August 1971, Vol 20, pp. 319-332.

Madden, Barbara, "Rehabilitation: Principles; Philosophy; Practice," Nursing Digest, Vol 5, No. 2, Summer 1977.

Miller and C. Nygren, "Living with Cancer Coping Behaviors," Cancer Nursing, Vol 1, No. 4, August 1978, pp. 297-302.

O'Neill, Marcella, "Psychological Aspects of Cancer Recovery," Cancer, July Supplement 1975.

Roberts, S., Behavioral Concepts and the Critically Ill Patient, Prentice-Hall Inc., New Jersy, 1976.

Rosenberg, S., "Patient Education Leads to Better Care for Health Patient," Health Reports, Vol 86, September 1971, pp. 703-802.

Schwab, Clemmons and Marger, "The Self Concept: Psychosomatic Applications," Psychomatics, 1966.

Ulrich, M., and K. M. Kelly, "Patient Care Includes Teaching," Hospitals, Vol. 46, April 1972, pp. 59-65.

Verstraete, D. and M. Meier, "Patient Education in a Health Science Center, " Minnesota Medicine, October 1973, pp. 31-35.

TOWARD AN ANALYSIS AND SYNTHESIS OF THE DIRECTIONAL LITERATURE OF THE FIELD OF ADULT EDUCATION

PAULETTE T. BEATTY
TEXAS A&M UNIVERSITY

The philosophic or directional literature of a field is a magnetic force drawing the curious, reflective, analytical, and skeptical alike. This literature of the field of adult education was explored with the expectation that a new understanding, meaning, or order not previously discerned might emerge. In the tradition of formulative or exploratory research, it was undertaken "to gain familiarity with a phenomenon or to achieve new insights into it . . . in order to formulate a more precise research problem" (Selltiz, Wrightsman, & Cook, 1976, p. 90).

The works of Frankena (1974) and Kneller (1963) aided in determinations of relevance--sources corresponding in whole or in part to one of the elements of which an educational philosophy is comprised. The scope of the literature reviewed was limited to sources related to the adult education movement in the United States and published from 1960 through 1976 in addition to select earlier classics with enduring impact upon the field. The review process excluded sources of focused perspective which addressed only select client groups, programs, or delivery systems. Literature retrieval was accomplished through recourse to: ERIC, EI, CIJE, all issues of Adult Leadership, Adult Education, Notes and Essays on Education for Adults, Occasional Papers, Books in Print, Paperback Books in Print, and Handbook of Adult Education. Two hundred twenty-one sources were identified through the application of screening criteria of relevance, scope, and retrieval to the literature base. A wide diversity of form and a lack of substantive differentiation were noted.

Two strategies, within the mainstream of content analysis, were emloyed in substantively ordering the literature (Holsti, 1969). The first strategy involved the identification, recording, and analysis of "cue descriptive words" or "cue descriptors," terms which either point to or describe the directional statements. The second strategy involved the development, recording, and analysis of "themes," simple, independent, directional assertions derived from highly complex assertions.

The first strategy resulted in the identification of 26 cue descriptive words. However, there were noted absences of operational definitions for and inconsistencies in the use of the cue descriptors. Thus, "best fit" operational definitions were derived from the Oxford English Dictionary (1933). The cue descriptors and definitions are presented in Table 1.

Subsequent to the derivation of definitions, critical discriminations among the cue descriptors were identified employing the works of Holsti (1969) and

---

This study was supported by The American Association of University Women Educational Foundation through the 1977-1978 Melanie R. Rosborough Fellowship.

Article reprints and complete bibliographies are available from the author: Dr. Paulette T. Beatty, Adult and Extension Education, College of Education, Texas A&M University, College Station, Texas, 77843.

Table 1
Cue Descriptors and "Best Fit" Definitions

Cue Descriptor	Definition
action	the act or process of producing an effect
activity	the natural or normal function
aim	the object intended to be obtained
belief	the conviction or persuasion of truth
challenge	the invitation to engage in contest
concern	that relating or belonging to one's business affair or welfare
duty	the action required by station or occupation
end	the extremity or conclusion of an event or series of events
function	the natural, proper, characteristic action of anything
goal	the end to which a design tends
imperative	the expression of command, entreaty, or exhortation
issue	the point in debate on which parties take affirmative or negative positions
job	the work taken or assumed by anyone
meaning	the idea one intends to convey to the mind by act or language
mission	the definite task or errand which one is fitted to do
need	the condition of lacking the required or useful and requiring supply or relief
objective	the end or aim of action
philosophy	the body of principles underlying a given branch of learning which investigates principles of reality, merit, and preferential rating
priority	the order of preference based on urgency, importance, merit, and professional rating
problem	the perplexing situation demanding solution
program	the subjects embraced in any public exercise or performance
purpose	that which one sets before oneself as an object to be attained
role	the culturally determined action taken or assumed by anyone
task	the labor or undertaking imposed by another
trend	the underlying or prevailing tendency or inclination
value	the quality or fact of being judged of worth, excellent, useful, or desirable

Bruner, Goodnow, and Austin (1967). These discriminations permitted the development of provisional concept classes within which cue descriptors were able to be placed: (1) value/belief, (2) environment, (3) action, and (4) goal. Table 2 depicts the concept classes, class functional definitions, and corresponding cue descriptors. Figure 1 illustrates the major relationships provisionally posited among the concept classes.

Table 2

Functional Definitions and Cue Descriptors
Associated With Concept Classes

Class	Functional Definition	Cue Descriptors	
Value/Belief	A fundamental construct asserting excellence or fact, impacting actions and goals	belief imperative meaning	philosophy priority value
Environment	Aggregate of external conditions, influences, constraints, and situations impacting actions and goals	challenge concern issue	need problem trend
Action	An undertaking instrumental to goal attainment	action activity duty function job	mission program role task
Goal	A desired, as yet unattained, outcome of action plans	aim end goal	objective purpose

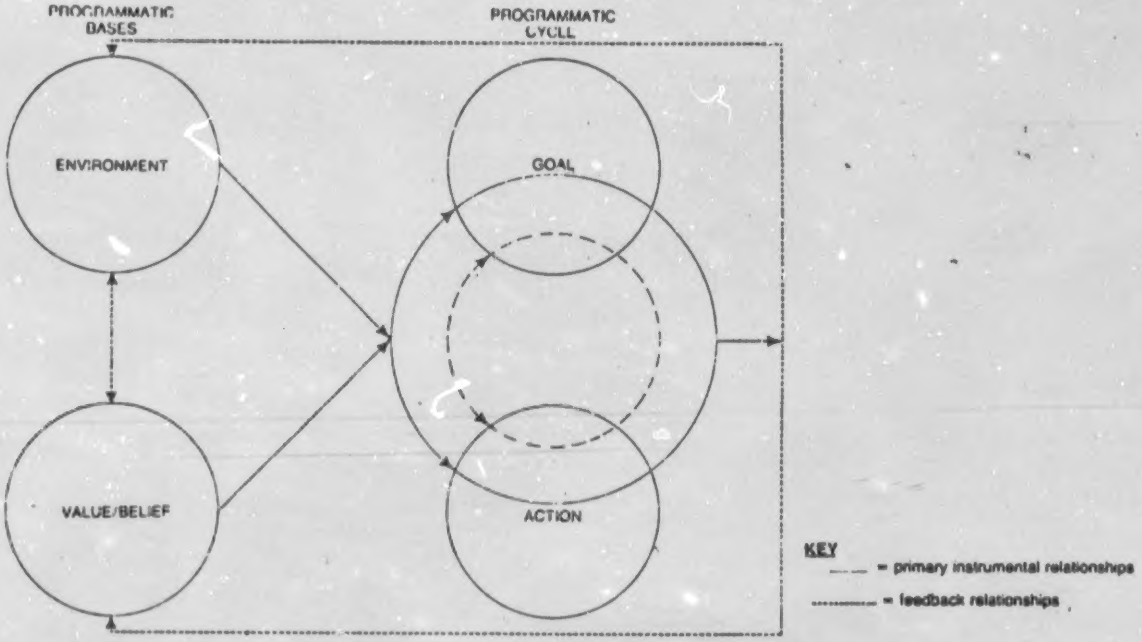

PROGRAMMATIC BASES
PROGRAMMATIC CYCLE
ENVIRONMENT
GOAL
VALUE/BELIEF
ACTION
KEY
—— = primary instrumental relationships
.... = feedback relationships

Figure 1. Relationships among concept classes.

The second strategy employed in analyzing the literature was the development of themes. It was undertaken to test the generalizability of the concept classes as organizing constructs for the substantive directional statements. In the application of this strategy, a 15% literature sample was selected to insure representation of each year from 1960 through 1976 as well as of the earlier classics. A total of 761 themes were developed.

Within the value/belief concept class, 304 value/belief themes were identified. This represented 40% of all themes developed. The themes were analyzed and were able to be subsumed under 11 generic propositions.

V/B-1: Each human is by nature valuable, complex, unique and dynamic.
V/B-2: Each human has a reciprocal relationship with society.
V/B-3: Each human needs to learn, is capable of learning, wants to learn, has a right to learn, and is central to the learning process.
V/B-4: Society is by nature instrumental, complex, and dynamic.
V/B-5: Society has a reciprocal relationship with its citizenry.
V/B-6: Society requires an educated citizenry.
V/B-7: Education is the societal response of systematizing aspects of the universal human process of learning.
V/B-8: Education is based upon the human and social condition.
V/B-9: Both "liberal education" and "training" are legitimate avenues for human development.
V/B-10: Education builds both the good human and the good society.
V/B-11: Means and ends in education must be compatible.

Within the environment concept class, 102 environment themes were identified. This represented 13% of all themes developed. The themes were analyzed and were able to be subsumed under 7 generic propositions.

E-1: Social change impacts all facets of life.
E-2: The size of the population is increasing.
E-3: The character of the population is changing.
E-4: The tehnology of the social system continues to grow.
E-5: Social institutions are in radical upheaval.
E-6: The physical environment is progressively ravaged.
E-7: Relations among fellow humans are increasingly destructive.

Within the action concept class, 195 action themes were identified. This represented 26% of all themes developed. The themes were analyzed and were able to be subsumed under 5 generic propositions.

A-1: The field should assertively recruit, retain, and professionally develop quality personnel.
A-2: The field should secure and responsively manage the technology, facilities, and finances necessary for the accomplishment of its goals.
A-3: The field should conduct its basic operations of program planning, teaching, and research and evaluation in a professional manner.
A-4: The field should build programs for individual personal well-being.
A-5: The field should build programs for individual competence in societal roles and relationships.

Within the goal concept class, 160 goal themes were identified. This represented 21% of all themes developed. The themes were analyzed and were able to be subsumed under 5 generic propositions.

- G-1: The field is professional in the accomplishment of its mission.
- G-2: The social system develops its physical resources for the benefit of its citizenry.
- G-3: The social system develops its social resources for the benefit of its citizenry.
- G-4: Individuals within the social system experience personal well-being.
- G-5: Individuals within the social system experience competence in societal roles and relationships.

The themes developed from the directional literature were, upon analysis, found to cluster into value/belief themes, environment themes, action themes, and goal themes. Thus, the generalizability of the provisional concept classes as organizing constructs for the substantive directional literature has been demonstrated. Not only were the themes contained within each concept class found to be differentiated, but also they were found to be interrelated in such a manner that each contributed significantly to the integrity of an organic whole. Figure 2 graphically depicts the major linkages which serve to integrate all of the directional propositions, and therefore all of the directional themes.

The major relationships which emerged from the analysis of the literature are described. The population-specific environment propositions (E-2 and E-3) and the social system-specific propositions (E-4, E-5, E-6, and E-7) are linked indirectly to goal propositions by the mediation of two global propositions, E-1, which asserts the presence of pervasive social change, and V/B-8, which asserts that education is based upon the human and social condition. The human and social condition upon which all education rests must account for and respect the nature of both the social system and the individual (V/B-1 through V/B-6) and the real world milieu which describes the present contexts (E-1 through E-7). In a similar manner, all value/belief propositions are linked to the societal and individual goal propositions (G-2 through G-5) through the mediation of V/B-10-- all true education builds the good person and the good society. Action propositions manifest two sets of relationships relative to the goal propositions. One link between action and goal (A-1, A-2, and A-3 to G-1) connects "process" action and goal propositions. Another link (A-4 and A-5 to G-4 and G-5) connects "output" individual action and goal propositions. Of interest to note is the absence of linkage between action and goal propositions from the societal perspective. Societal goals are integrated into the system by reason of the strong value/belief and environment propositions.

In summary, it is possible to conclude that what had appeared upon initial review to be a highly diffuse and undifferentiated collection of directional assertions, in fact, possessed not only the inherent capacity to be ordered but also the inherent capacity to be an integrated normative system for the field. Thus, through the comprehensive study of the directional literature of adult education in the United States, the field has been provided with both a process for and a product of the analysis and synthesis of its philosophic discourse. Consequently, this present study contributes to the substantive development, differentiation, and integration of such thought within the field. Further, the study constitutes a working prototype for subsequent studies from both a comparative and an evolutionary perspective.

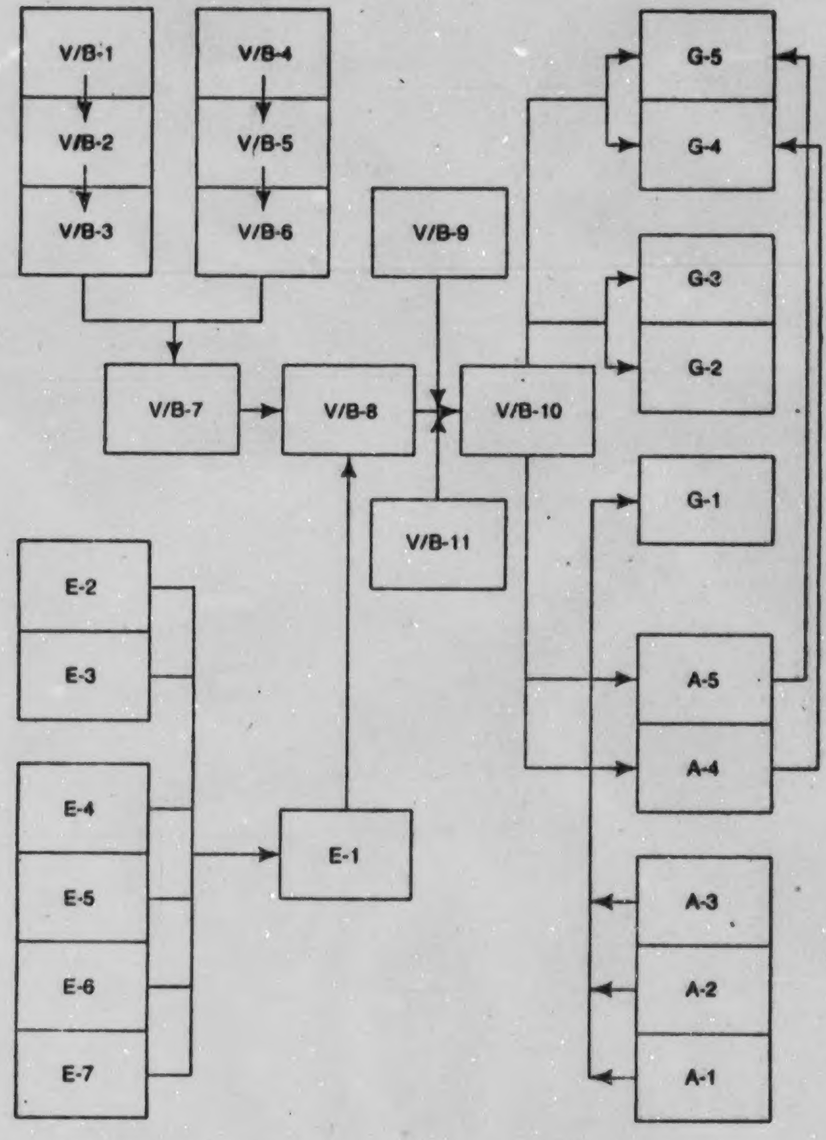

V/B-1
V/B-2
V/B-3
V/B-4
V/B-5
V/B-6
V/B-7
V/B-8
V/B-9
V/B-10
V/B-11
G-5
G-4
G-3
G-2
G-1
A-5
A-4
A-3
A-2
A-1
E-1
E-2
E-3
E-4
E-5
E-6
E-7

Figure 2. Major relationships and linkages among all propositions.

REFERENCES

Brunner, J. S., Goodnow, J. J., & Austin, G. A. A study of thinking. New York: Science Editions, Inc., 1967.

Frankena, W. K. A model for analyzing a philosophy of education. In J. Park (Ed.), Selected readings in the philosophy of education (4th ed.). New York: Macmillan Publishing Co., Inc., 1974.

Holsti, O. R. Content analysis for the social sciences and humanities. Menlo Park, Calif: Addison-Wesley Publishing Co., 1969.

Kneller, G. F. Philosophy of education. In G. F. Kneller (Ed.), Foundations of education. New York: John Wiley and Sons, Inc., 1963.

Oxford English Dictionary. Oxford: Clarendon Press, 1933.

Selltiz, C., Wrightsman, L. S., & Cook, S. W. Research methods in social relations (3rd ed.). New York: Holt, Rinehard and Winston, Inc., 1976.

Evaluating the Quality of Faculty Outreach Efforts: The Development of An Evaluative Approach to be Used in Salary, Promotion, and Tenure Decisions

Donald E. Hanna, Assistant Head, Division of Extramural Courses, Office of Continuing Education and Public Service, University of Illinois at Urbana-Champaign.

Charles E. Kozoll, Associate Director, Office of Continuing Education and Public Service, University of Illinois at Urbana-Champaign.

James C. Votruba, Head, Division of Extramural Courses, Office of Continuing Education and Public Service, University of Illinois at Urbana-Champaign.

The Problem

A vexing problem for many college and university faculty members interested in participating in continuing education and public service activities is how to substantiate the quality of their efforts. This problem is particularly acute for faculty members who devote a major portion of their time to outreach activities and want those activities considered as criteria for salary, promotion, and tenure decisions. Lacking an accepted approach for evaluating quality, faculty members have often indicated only the quantity of their efforts or have simply down played the importance of their outreach activities while emphasizing research and scholarship.

Few continuing education units have attempted to wrestle with this problem. This symposium is a progress report on one effort, viewed within the context of change in higher education.

The Symposium's Approach

This symposium will provide a three-part review of how our continuing education unit is approaching the problem of reward for faculty involvement in outreach. James Votruba will establish the setting for this task by looking at change in higher education. Charles Kozoll will describe the first stage of the effort to expand opportunities for rewarding faculty members who participate in outreach activities. Donald Hanna will present the approach currently being taken and some of the tentative outcomes. The next sections of this abstract summarize what will be more extensively discussed during the symposium.

The Project's Approach

Part I. Developing a Basic Framework. Beginning in 1975, OCEPS personnel worked with a campus study committee to develop a comprehensive statement describing continuing education and public service. A similar statement on teaching also was prepared by the study committee. The process was not viewed originally as a planned change program. Dr. Kozoll's presentation will point out that the study effort can be viewed, in fact, as a first stage in a conscious effort to alter an established procedure for faculty evaluation. The completion of the statement led to the second stage of the project, now underway.

Part II. The Formation of An Action Research Project. In the spring of 1978 the authors developed a four stage action research project designed to result in an accepted process for evaluating the quality of faculty outreach activity at the University of Illinois' Urbana campus. The four stages included:

1. Development of an evaluative approach which can be used to assess the quality of faculty outreach efforts.
2. Development of a sense of commitment to, and ownership for, this evaluative approach at the departmental, college, and campus level.
3. The application of the approach to specific faculty outreach projects.
4. Evaluation of the approach and dissemination of the findings throughout the campus.

The project was conceptualized and designed as a process of planned organizational adaptation and change. In this regard, the planned change process as described by Havelock (1973, 1976) and Lindquist (1978) was heavily utilized.

In addition, it was assumed from the beginning that the task was to more effectively relate outreach efforts to the prevailing values and norms of the existing campus reward structure rather than trying to change that reward structure in any substantive way.

In the process of addressing the first two stages of the project, the authors have focused their attention thus far on two related activities: 1) a comprehensive review of faculty promotion and tenure papers submitted to the campus over the past two years, 2) interviews with department chairpersons, associate deans, past and current members of departmental, college, and campus promotion and tenure committees, and the Vice Chancellor for Academic Affairs.

The review of promotion and tenure papers was intended to identify exactly how faculty members currently represent their participation in outreach activities. The interviews focused upon three fundamental questions. First, what are the prevailing norms and expectations which influence promotion and tenure decisions at the Urbana campus? Second, how effectively have faculty members related their outreach efforts to these norms and expectations? Finally, how can a faculty member more effectively relate his or her efforts to the existing salary, promotion, and tenure system? A primary point of departure for these interviews was recent committee report on teaching and service which describes a conceptual approach which faculty can take in representing the quality of their outreach activities.

Project Outcomes. To date, the project has focused primarily upon stage one (establishing an evaluative framework) and stage two (creating a sense of ownership). Four points have been continually reenforced in the interviews. First, there is currently some dissatisfaction among promotion and tenure committee members regarding the data presented in support of faculty outreach efforts. Second, there is strong support for giving faculty outreach activities greater consideration in the salary, promotion, and tenure process. Third, criteria for evaluating outreach efforts developed and applied at the department level will rarely result in a successful outcome unless they are accepted by the campus promotion and tenure committee and are in accordance with prevailing campus values and attitudes. Fourth, it is important to approach the promotion and tenure process with the point of view that it begins upon employment rather than with a department recommendation to promote. Four equally important stages of the promotion and tenure process were identified and described by participants in this project. These were: 1) an orientation stage, in which faculty members learn more about their institution, their responsibilities and the institutional and professional environment; 2) a planning stage, where the nature and breadth of the faculty member's professional involvement comes into formation; 3) an action stage, where the faculty member's developmental plans are carried through to completion and evaluated; and 4) a preparation stage, where documentation of professional accomplishments is collected, organized, and presented for consideration.

Outcomes from the project to date emphasize: 1) the approach which should be taken in selection, evaluation and presentation of outreach efforts for promotion and tenure, and 2) specific recommendations to faculty members and academic departments currently in the process of preparing promotion and tenure papers at the University of Illinois.

Symposium Title: Lifelong Learning During Adulthood - Agenda for Research

Organizer: Norman D. Kurland, New York State Education Department

The task of developing a Research Agenda for Lifelong Learning During Adulthood was originally initiated by the Coalition of Postsecondary Research Interests. A panel, constituted of people especially knowledgeable about research and research needs in lifelong learning, was selected. Subsequently, the panel was asked to serve in a similar capacity for the Future Directions for a Learning Society program of the College Board.

The product of the panel's work was the published report, Lifelong Learning During Adulthood: An Agenda for Research.

The following are the recommended priority areas for further research:

Research That Focuses Primarily on Learners

1. Learner needs that may be met through lifelong learning.
2. Learner characteristics or conditions that facilitate or impede adults' engaging in and benefiting from learning opportunities.

Research That Focuses Primarily on Providers

3. Characteristics or conditions of institutional and individual providers that may influence adults' participating in and benefiting from learning opportunities.
4. Administrative and management functions of provider institutions that may facilitate or impede the provision of learning opportunities.

Research That Focuses Primarily on Society

5. Impact of lifelong learning on society.

Research That Focuses on the Interactions of Learners, Providers, and Society

6. Ways in which providers and learners interact to facilitate lifelong learning.
7. Impact of society on learners; public policies and practices that facilitate or impede adult learning.
8. Impact of society (public practices and policies) on providers of learning opportunities.
9. Dissemination and use of research findings.

Our aim in the symposium is to share information concerning ongoing research related to items in the Agenda and to elicit suggestions for additions to the Agenda.

"Reactions to the Lifelong Learning Research Agenda and Recommendations for Future Directions in Identifying Needed Research"

Edwin L. Simpson
Northern Illinois University

The critique and recommendations contained in this summary are the result of interaction with members of the Commission of Professors of Adult Education Taskforce on Needed Research and other researcher/scholars and practitioners from the field of adult continuing education since the Agenda was published in later 1978.

Recognizing the enormity of identifying research priorities in an area as pervasive and broad as the learning activity of adults, criticism about reaching the objectives intended by the Advisory Panel seems to require a yardstick other than the usual "success or failure" dichotomy which easily might be applied as a measure. As Chairman Norman Kurland acknowledged at the outset of his report, the task of setting a research agenda seemed impossible and given the additional charge of determining priorities, the assignment became that much more difficult. So how then might one judge the success of an "impossible task"? It seems first that consideration should be given to the degree to which the Agenda moves researchers, practitioners and consumers closer to mutually comprehending research problems related to adult learning. Secondly, it seems that the degree to which the document gives direction in identifying priorities and impetus for research action deserves consideration. The following reactions and recommendations are based upon the two perspectives for judgement advanced above.

A general reaction from those reviewing and discussing the import of the Agenda was that it rather effectively achieved the first objective of improving communication concerning potential areas for research, but fell short of providing direction in determining priorities and impetus for research action.

More specific reactions to strengths of the document were that (1) it made a positive contribution in identifying factors and interaction of factors in classifying problems related to learning in the adult population, (2) it organized a number of potential research problems into a helpful classification scheme, (3) it provided a useful overview of recent research literature relevant to the systematic learning by adults, (4) it called attention to the critical importance of the learner, the provider, and society and the interaction of these three in delineating research problems, (5) it also provided basic research questions pertaining to the three principle adult learning agents mentioned above, and (6) it emphasized impact of society on adult learning as an agent typically overlooked in the identification of research priorities.

Specific weaknesses which have generated from discussions have included (1) the lack of a heuristic structure necessary in determining priorities of research, (2) the lack of attention given to research directed specifically at the individual adult as a self-learner, and (3) the apparent overemphasis upon institutional and formal adult learning activities as opposed to the many non-institutional and informal learning opportunities of which adults take part.

Salient recommendations for future activity in identifying needed research were the following: (1) attempt to build a heuristic structure to focus on crucial research problem areas, (2) complete a more extensive review of literature in fields related to adult learning, and (3) involve practitioners more in clarifying and formulating questions to improve interpretation and future dissemination of findings.

"Research Contributions from Other Fields to Meet the Current Research Needs of Adult Education/Lifelong Learning"

Mary Jane Even
University of Nebraska

The process of setting directions for research in the field of Adult Education includes the need to search out, recognize and interpolate research of other disciplines and fields of study where similar or parallel research problems have been investigated and where research findings have potential for theoretical interpolation and application to adult education. This step in the process is essential where there is potential that the research problem/theme/topic has a research history in other fields.

There is a history of borrowing and interpolating research from other fields in adult education. The 1959 book by Edmund des Brunner entitled Overview of Adult Education Research demonstrated through application that the field was making use of knowledge in many disciplines and fields to solve its research concerns. In an attempt to identify and explain research variables, Brunner drew from fields of communication, rural sociology, phychology, social psychology, management, and many others.

In 1964, two major developments were recorded as having taken place. The first was the publication by the Commission of Professors of Adult Education of the volume entitled Adult Education: Outlines of an Emerging Field of University Study in which six chapters were devoted to the concept of borrowing and reformulating knowledge of other disciplines to adult education. The disciplines identified were psychology, social psychology, administrative science, sociology, and history. A chapter was devoted to each of these disciplines.

The second event in 1964 was the report prepared by Burton W. Kreitlow entitled Educating the Adult Educator, Part 1, Concepts for the Curriculum. Seminars were held with members of several disciplines and applied fields toward reviewing selected recent research. Those included were psychology, sociology, social psychology, anthropology, vocational education, communications, social work, business and industry, and education. Analysis was made of research in other fields as well as adult education. Though not part of the initial intent, other fields mentioned in the report included economics, political science, school administration, library science, rural sociology, human development, educational technology, and marketing.

More recent developments have demonstrated that the procedure of borrowing theory has become a common practice. Thus, a special project has been proposed: The goals are 1) to investigate in a formal organized manner the research being conducted in a variety of selected disciplines and applied fields which have potential contributions for the field of adult education; 2) to analyze whether the specific needs identified in the Research Agenda for Lifelong Learning of the Future Directions for a Learning Society project of the College Board, have been investigated in whole or in part by researchers in those fields or disciplines. In addition to involvement of key researchers in selected disciplines, adult education professors will be called upon for interpolation and analysis.

The panel presentation will examine the more recent research from adult education and 10 disciplines, their research themes/topics as related to the research agenda items as well as the status of the project thus far. Information will be sought from the Symposium participants regarding those fields or disciplines which are thought to have valuable interpolatable research and theory.

Budd L. Hall
Participatory Research Project
International Council for Adult Education
Toronto, Ontario, Canada

WHOSE KNOWLEDGE, WHOSE ACTION?

The purpose of this paper is to share with others some of our emerging thinking concerning issues of epistemology and action. Our thinking has been influenced by a conscious effort on the part of members of the Toronto team of the Participatory Research Project to be engaged in active work in the community and workplace at the same time as working on reflective or theoretical issues related to our day to day work. Our concepts of how knowledge is created relates very much to the combination of our concrete experiences with reflections on others experiences and reflective writings.

This author shares the conviction with others such as Gunnar Myrdal and C. Wright Mills that social science is not free of values and that there are values implied in research whether stated or not. Further the author does not believe in the neutrality of technique and that if one can find a "hidden curriculum" in teaching one can find a similar "hidden process" in the creation of knowledge. The author believes that the most important question to be asked in these times of widely recognized social and economic inequalities is: Whom does our work serve?

The issues dealt with in this paper include:

- The relationship between commodity production and knowledge production
- Effects of knowledge as commodity production
- Who creates knowledge?
- Whose knowledge circulates?
- How is knowledge created?
- Issues in collective analysis

Some flavour of the paper can be seen from the following paragraph.

Is the production of knowledge a Monopoly?

Have we created a structure for the production of knowledge which has nearly ensured that it is impossible for a worker in Illinois or a farmer living in a village in Africa to contribute to the world's store of information? The standard and definition of research that is put forth by the various influential academic societies and institutionalized scholars has been shaped necessarily by the needs which the state, the administrative and governmental paraphernalia of our nations, has for research. We have created a set of requirements in terms of techniques and style which require years of specialized training, most likely a Ph.D. to achieve. This practice has resulted in a situation where a small number of professional scholars, persons of middle or professional class status, are doing research, reflection and are creating knowledge supposedly about the entire universe of people and problems. The question being asked is to what extent do the interpretations of this group represent reality? Whom does this research serve? What has happened to creative and knowledge creating abilities of the remaining majority of mankind? What are the means by which they contribute to our notions of reality? What are the means by which we hear their voices?

246

dian marino
Participatory Research Project
International Council for Adult Education
Toronto, Ontario, Canada

CREATING CRITICAL VISUALS

Graphics can be easily produced, immediately shared and interpreted; they also tap an imagery pool that is rich in contradictions. They are natural focalizing tools for reflecting and acting against one-dimensional and individual communication patterns which predominate in our educational settings. There are obstacles to collective development and use of visuals. Keeping people to just written words is a way to keep them individualized and unintegrated and frustrated. A comment from a community college student expresses some of these experiences:

> Lately, we as a class had a real concern about working better as a group and possibly getting to know one another better. Well through the drawings we've done this morning I found that the class expresses a lot of common concerns, therefore I feel that we are not maybe as bad as we felt.

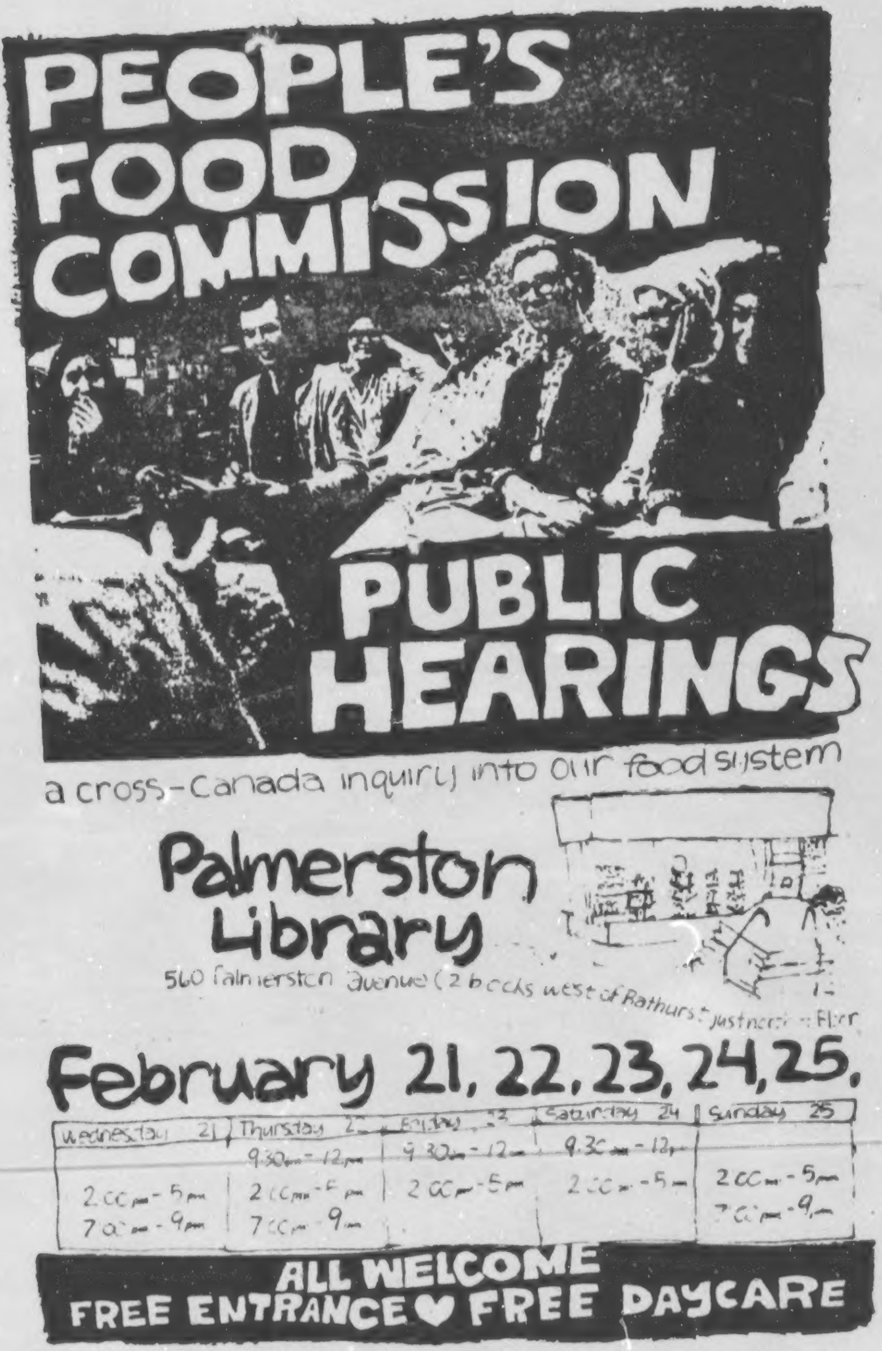
This paper will describe some initial reflections on the production and use of visual material with different groups of people. These reflections have a unifying theme of re-connection. This theme simply underlines the pervasive process of linking that seems to be a major aspect of creating critical visuals. Three areas of re-connection that will be elaborated are:

1) Individuals are able to see and jointly develop and deepen a group identity. Connections to social structures can be made in very concrete form.

2) Learning can be a collectively engaging process so that teachers and students are mutually involved in action and inquiry.

3) The integration of heads and hands (of reflections and actions) is a common experience of people who are engaged in producing and using materials which have visual elements. There is a powerful sense of creativity and mastery which accompanies this process of production and use. These three areas of re-connection will be explored in depth using many examples drawn from field experiences. Some of these illustrations include: agenda mapping done by community college students, a historical mapping process done by a group of social scientists, an analytical cartoon seminar done with several aligned groups, self-portraits done by adults at a reflective retreat, left-handed drawings done by English as Second Language teachers, postermaking and curriculum material development by immigrant women learning English in their workplaces.

It has been my experience that drawing from action for action even in small instances can produce powerful tools for mobilization and integration. And, although these reflections are still in the formative stages, I think that it is critical to develop them with others working in the field.



PEOPLE'S FOOD COMMISSION

PUBLIC HEARINGS

a cross-Canada inquiry into our food system

Palmerston Library

560 Palmerston Avenue (2 blocks west of Bathurst just north of Bloor

February 21, 22, 23, 24, 25.

Wednesday 21	Thursday 22	Friday 23	Saturday 24	Sunday 25
	9:30am - 12pm	9:30am - 12pm	9:30am - 12pm	
2:00pm - 5pm 7:00pm - 9pm	2:00pm - 5pm 7:00pm - 9pm	2:00pm - 5pm	2:00pm - 5pm	2:00pm - 5pm 7:00pm - 9pm

ALL WELCOME
FREE ENTRANCE ♥ FREE DAYCARE

for more information contact [illegible] Boyd [illegible]

Working collectively can take many different forms. For example, this poster is being used to announce public hearings for a people's inquiry into Canada's food system. It is not a government inquiry. The artist who produced this poster consciously attempted to confront the formality and mechanical qualities associated with a government inquiry. As well, the process of producing the poster began long before the actual making of the poster. The artist worked in a variety of ways with the People's Food Commission. This kind of integration of a professional into an entire process is a small step towards designs which are both critical and creative.

Ted Jackson
Participatory Research Project
International Council for Adult Education
Toronto, Ontario, Canada

RURAL TECHNOLOGY AND COLLECTIVE ANALYSIS: IMPROVING WATER SUPPLIES AND SANITATION

World Health Organization figures indicate that in the underdeveloped countries 86 per cent of the rural population is without reasonable access to safe water and some 92 per cent is denied adequate excreta facilities. While comparable estimates are not available for rich country rural populations, it is widely known that lack of provision for drinking water and sanitation at the rural peripheries of the Western economies--such as in the Canadian north or in the American Appalachians--has led to health hazards which mirror those of the Third World.

Efforts in the rural areas of the poor countries to redress the inequitable distribution of water and waste infrastructure have concentrated on the provision of potable water. However, the primacy among water-related health problems of the faecal-oral diseases--those transmitted by the pathogen passing out in the excreta of an infected person and then subsequently ingested--has meant sometimes spectacular failure for "water only" projects.

As the inseparability of water supply and sanitation has gained currency during the last decade, so too has respect for the efficacy of appropriate technology, indigenous design and village science when applied to water and waste problems. The requirement of meaningful community involvement in such approaches has, in part, forced aid agencies to re-examine the "social side" of this sector of development, resulting in increased attention to the dynamics of self-help, village organization and the social impact of improvements.

The present paper argues that collective analysis for action can maximize the chances of long-lasting, self-sustaining water supply and sanitation improvements in rural settings. The form and contnet of such collective analysis may vary considerably:

- In northern Ghana, illiterate subsistence farmers are trained as handpump caretakers. In addition to identifying and repairing pump breakdowns, the caretakers also work with the local Water Committee to analyze unhygienic water use practices by villagers and initiate relevant educational events.
- A community attitude survey, carried out jointly by citizens and extension agents, and whose results were published in the local newspaper, was an important factor in convincing the municipal government of Williams, Arizona to raise funds for an improved water and sewerage system.
- A general assembly of village leaders and family heads is required to begin the legal groundwork for a village Water Board prior to the installation of a new piped water system in rural Paraguay. Learning materials--print, slides and posters--on the technical and health aspects of the new system are developed for adults and children.

- Residents near Jogjakarta, Java provided $10,000 worth of free labour in installing bamboo and metal pipes to transport water from a spring across two large hills into the villages. The system was designed co-operatively by village leaders with a group of local university graduates, and has been maintained by the villagers on a user-fee basis for several years now.

- In Big Trout Lake, Ontario community meetings have been called to evaluate a translation (into the Nishnabe language) of water and waste technologies recommended by the Band Council's consultants. Residents who haul water by hand and use pit latrines, are being engaged by the local Health Committee to evaluate, modify and begin to implement their own technology choices.

Who the improvements will benefit and who decides what the improvements will be are fundamental issues in the examples above. Collective analysis may be blocked by a number of factors related to rural class structure. Unlike lower-class residents, rural leaders may possess sufficient time, energy, sources of information, capital and linkages withoutside agents to initiate and follow through on meetings. Village discussions may also be held strictly in the language of the dominent local faction, further consolidating elite power. With what class the professional researcher allies locally, and to what extent local class structure itself becomes a critical focus of the collective analysis process are important questions not explicitly addressed in current case studies.

Use of visuals in collective analysis for water and sanitation improvements is frequently found in the literature. Ghanaian pump caretakers indicate a broken part by an "X" on a drawing of a pump, a procedure whose literacy training potential is under assessment. A Panamanian handbook on how to build a latrine out of local materials employs legendary native symbols and modern construction diagrams in its visuals. Recently, a study of Nepal villagers' perceptions has demonstrated the ineffectiveness of pictures or photos of water-related health problems which are not accompanied by explanation and discussion. However, few cases report on efforts of rural people themselves to create visual representations of their chosen technologies or current practices.

250

Presented by Greg Conchelos
Participatory Research Project
International Council for Adult Education
Toronto, Ontario, Canada

PROFESSIONALS' ROLES, CONTROL AND COLLECTIVE ANALYSIS IN RESEARCH

Introduction

This presentation will attempt to provide a concrete picture of emerging roles of the professional researcher in one specific aspect of participatory research - collective analysis.

The specific focus is upon the creation of control over this process and the shifts in control among the participants where these shifts seem specifically a result of the various roles which a professional may play.

The method is the review of case studies of several research projects where the intention was that the local community held maximum productive control over the research process.

There will be some general conclusions drawn across the several case studies for the purpose of subsequent discussion.

Frame of Reference

The cases selected reflect several similar characteristics. Most reflect some sort of community (rather than institutional) setting. Emphasis is upon those in which the greater part of the initiation, planning, and execution originates in and is controlled in critical aspects by groups representing a geographical (rather than functional) community.

These cases are distinct from research projects initiated and carried out only by university academics, service organizations, governmental groups, non-governmental organizations or the private sector.

Another emphasis is upon applied research which deals with practical problems and which leads to specific operational knowledge held by community persons.

Approach

Using these general criteria for selection, each case study will be briefly described. The process of collective analysis within it will be outlined.

The formal and informal roles of key individuals and groups will be discussed. Of particular importance will be the role of the professional researcher as it affects the development, process and outcome of the collective analysis.

Where possible general, comments upon method will be made.

Definitions

By role is meant the practical social appearances and effects of the behaviour, value system, previous training, motives and similar factors (both implicit and explicit) which constitute contact between the professional researcher and members of the community.

By collective analysis is meant the use of a social or group basis within the community to carry through one of several possible analytical processes of research. In most cases, this process will be: the definition of a problem, assessment of criteria for what information is acceptable; analysis of "data"; or determination of operational conclusions.

Related Matters

Experience has shown that collective analyses within such contexts lend themselves to issues "surrounding" the formally-defined research process. While not an intentional part of the research design, they are important factors in its formation, control, and outcome.

Examples of these are: the perceived political stance of the researcher; individuals or institutions formally or informally competing for a specific role; "transactional" relationships created by the research process but not related to its original purpose (legitimation; power-sharing), and others. Where applicable, they are described and discussed.

Concluding Assessment

The paper will conclude with an attempt to draw conclusions answering two questions.

Given the original purpose, motive or origins of the research,

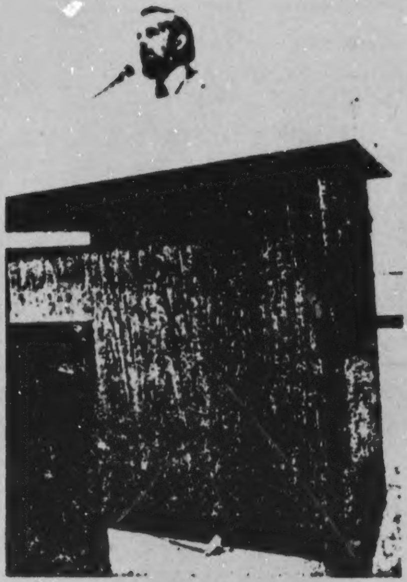
a) What aspects of the professional's role supported constructive local control over the collective analysis?

b) Which aspects discourage or obstructed it - drew the control of collective analysis away from the local groups involved?

Participants were invited to discuss their own experiences and theoretical positions toward continuing the discussion.

Deborah Barndt, Ph.D.,
Participatory Research Project
International Council for Adult Education
Toronto, Ontario, Canada

VISUAL MODES OF COLLECTIVE ANALYSIS FOR ACTION



These two photographs represent two different kinds of research processes. On the right, a North American professor is describing a study he did of a small community not his own. He defined the problem, developed the tools, implemented the data collection, analyzed the results, wrote up the conclusions, published articles, and delivered lectures. For the most part, this research project was an intellectual and individual venture.

The Latin American community residents on the left are considering alternative solutions to their water supply problem. They have named this issue as vital to their lives, have shared their personal and common experiences around the problem, researched their rights, found out what other communities have done, and are now acting upon the problem to solve it. Their research has been collective and is linked to action.

The juxtaposition of the two photos, of the two research processes poses some questions about who researches what, how and for whom. Participatory research provides an alternative to conventional academic research by involving people in naming and analyzing and acting upon their own problems for thier own purposes.

There is another question raised in the juxtaposed photographs. The academic researcher uses a microphone to convey verbally his results; words have been the medium of the research process. Academia has always been a verbal domain. The community people, on the other hand, are using a simple sketch to explore alternatives. Popular media - from drawing to drama to music - can also be tools in education and research. Just as research has been dominated by individual academics, so, too, it has been dominated by academic forms of communications. If research is to be truly controlled by common people, it must incorporate the forms of expression that are theirs.

This paper explores visual methods of Participatory research. This exploration proposes that both the issues and the tools should emerge from the social context of the people studying themselves. And if they are in fact involved in creating those tools, their critical themes will be embedded in them, and the tools can be used critically to analyze and plan for action. For in the end, the issue is political, it is one of control - control of the problems, control of the study of them, control of the tools of studying them, control of the making of the tools, control of their use, control of the findings.

To illustrate the use of popular media in participatory research, six vignettes are presented, three from a Latin American context, three from a North American context. In Latin America, the research is part of a literacy program with urban migrants living in squatter settlements. One tool developed with the class is the photo-novel, a popular form of literature in Latin America, especially among illiterates. Students are involved in acting out two contrasting literacy methods, teachers join in the conceptual design and layout; thus the issues visualized are theirs. Thematic photographs or drawings are a second form of visual tools developed in Brazil as part of the Paulo Freire literacy methodology. Just as the two photos in this abstract pose a contradiction, so photos are taken of social contradictions surrounding the literacy participants. They are used in classes to collectively analyze common problems, explore solutions, and mobilize people for action. A third medium used in the Latin context is popular theatre, involving women in a Mothers' Club in acting out critical relationships in their daily lives - photos and films of the dramas are regularly returned for critical reflection.

The North American examples represent access to different media. For example, portable video tape is a tool being used by Latin American immigrant community residents making a composite self-portrait of their varied yet common immigration experiences; the making of the documentary becomes a research process. Photographs and video are also being used in researching the common work experiences of immigrants learning English as a second language in their workplaces. Occupational health has emerged as a common theme across factories, as classes have been making their own phot-stories and films on this subject. A third North American group, middle class university students, use various media to describe problems they're facing in their field work and to engage other class members in exploring alternative solutions. They have chosen collages, mime, story-telling, slide shows, and mobiles as tools for collective analysis for action.

After the six examples of visual modes of inquiry are described, they are examined critically for some of the technical, ethical, scientific and political issues they raise.

Symposium

QUALITATIVE RESEARCH METHODS AND APPROACHES

Virginia R. Griffin, Organizer
Department of Adult Education
The Ontario Institute for Studies in Education

OVERVIEW

As qualitative research gains more prominence in the field of adult education, the relations among alternative methods are becoming more evident. Our discussion in the symposium is organized around the decision points which we all faced as researchers in particular studies which we each conducted, all having to do with aspects of adult learning. Through comparing and contrasting our respective decisions we hope to raise out dimensions and issues in qualitative research that others may wish to consider.

View of Reality

The first of these decision points (one which could easily be taken for granted) was how we defined the nature of the object of study, i.e. adult learning. This decision sets a range of appropriate methods. A distinction offered by Roberto Mangabeira Unger (Knowledge and Politics, 1975) between three approaches to discerning truth related to three different orders of reality seems useful here. He regards methods of causal explanation being appropriate to the order of events and logical analysis appropriately corresponding to the order of ideas. These are the two approaches to knowing with which we are perhaps most familiar in systematic inquiry. However, he identifies a third order of reality which he calls "consciousness, mind, culture and social life" which he suggests "calls for a method of appositeness or symbolic interpretation." (p. 107) All of us have construed the phenomenon of adult learning as being most faithfully represented in this third order of reality. We wished to inquire into aspects of how learning actually occurred for persons not simply to explore our ideas about it. Yet we were also not content to confine our inquiries to events which we could observe occurring in other's behavior. We defined learning as a process which occurs in the experience of persons and which is discernible through learners' perceptions (consciousness) of these experiences (existential-phenomenological).

Data Collection

Decisions to look at people's perceptions of experience, from a process point of view, define a number of issues for the way in which you collect data. Within each issue, we found a number of choices available to us here represented on continua:

a. When the steps or stages in the collection procedures are selected:

prior to start of study	as study unfolds

b. Timing of data collection:

concurrent with the experience	after the experience

c. Source of data:

researcher's own experiences	experiences of others

d. Role of researcher:

listen (active involvement in clarifying, probing, reflecting)	dialogue (active involvement in idea building, meaning-making)

Data Analysis

Making sense of the data collected is a crucial and difficult aspect of qualitative inquiries. One large area of choice is that of level of interpretation to be employed. We find Bruyn's formulation of four possible and legitimate levels (*Human Perspective in Sociology: The Methodology of Participant Observation*, 1966) useful. (1) *original meanings* (explicating the original expressions and meanings in order to be descriptive of what exists; (2) *themes* (an interpretation which is close enough to the actual description for an observer to confirm the findings with the people studied); (3) *configurations of themes* (creating coherent patterns from separate meanings and themes, as viewed or understood by the researcher, and expressed in terms not found in the original meanings of the subjects; and (4) *theory* (developing the relationship of the configuration to the dynamic or larger theory of the basic phenomenon under study, learning, in our case).

A second issue within the data analysis stage is that of deciding what methods and stances to employ to ensure quality, rigor, and integrity in the handling of the data. Some of the processes we found useful here were (1) making our assumptions explicit; (2) carefully describing our intentions for interpreting and the procedures used to carry out those intentions; (3) conscientiously immersing oneself in the data to get to know them yet remaining open to new ways of viewing, to having one's own frameworks disconfirmed or expanded.

Conclusions and Implications

The generalizability of the knowledge generated through qualitative methods is a large issue, given that the number of persons one can study is often quite limited. The position to which we have arrived, briefly stated, is that generalizability of the findings is not a claim to be posited by the researcher, but is a judgment to be made by the reader and the user of the study. The researcher cannot claim that others he/she has not studied will experience what he/she found these particular subjects to have experienced. The utility of the findings, however, lies in enabling others to examine and reflect on their own experience and to understand it more fully. We find this an appropriate outcome within the field of adult education.

Characteristics of the Researcher

A basic issue for the researcher considering qualitative study is whether his/her choice of approach is based on (a) avoiding learning and struggling with quantitative procedures or (b) positively choosing an approach appropriate to the problem to be studied, congruent with his/her view of reality, and within his/her own skills, attitudes and values. The final decision for each of us, then, was whether a qualitative study was one which we could do. A few of the demands we found our studies made of us included questioning of self, dealing with much ambiguity, trusting in people to articulate their meanings, deeply respecting the data, discipline, integrity, ability to risk and to build a network of others to give us support, openness to having one's ideas disconfirmed.

The Specific Approaches

In some of the above decision areas, we made similar choices; in others we differed and thus evolved or selected differing approaches under the qualitative umbrella. Labels that we have used to describe these approaches are phenomenological. heuristic, intuitive, and hermeneutical. Elements in these various approaches are not mutually exclusive, but each of us has emphasized certain of these components. Each emphasis and the most central references we found useful are discussed in the following sections.

A PHENOMENOLOGICAL APPROACH TO THE STUDY OF EXPERIENCE

Heather Bates
University of Toronto (Faculty of Medicine)

A phenomenological approach is characterized by a focus on description of experience as it is related to a particular phenomenon. The intent of the approach is to enhance our understanding of people's experience and in so doing to present a description that gives both structure and meaning to people's experience related to a specific phenomenon, in this case, an approach to learning.

The source of the data can include both the investigator's reflections on personal experience and descriptions from other individuals. However, when seeking descriptions from other people the investigator must bracket personal viewpoints and concentrate on helping individuals to express, as much as possible, the meaning of their own experience.

The data analysis process consists of two overlapping phases. In the first phase the researcher must immerse him or herself in the data and avoid projecting his or her personal biases onto the material. The second phase requires the researcher to reflect on the data in order to discover themes in the material and to understand and convey, in an organized fashion, the essence of people's experience. The researcher may also wish to present a discussion of the meaning that the findings hold for him or her. When doing this it is important to state explicitly that these thoughts were developed from reflection on the data and are not expressions of the actual meaning of the data "per se". By presenting as much of the data as possible in its original form (using quotations) the researcher can ensure that the reader has the opportunity to judge the validity of the researcher's interpretation.

The data may be presented in a number of ways depending on the researcher's preference. The options include: (a) an outline of the experience of each individual (as separate case studies), (b) development of a fictitious character whose experience represents an average of mean stance, and (c) presentation of a structural description that outlines the similarities and differences in people's experiences. These options represent the polarities of detail (option (a)) versus substance (option (c)).

Four books that were particularly useful in helping me understand a phenomenological approach are Introduction to Qualitative Research Methods: A Phenomenological Approach to the Social Sciences (Bogdon and Taylor, 1975); Reflection and Research in Psychology: A Phenomenological Study of Learning (Colaizzi, 1973); Toward Phenomenologically Based Research in Psychology (Giorgi, 1970); and A Primer in Phenomenological Psychology (Keen, 1975).

A phenomenological approach provides a way to gain an in-depth understanding of how individuals perceive their experience. In the case of learning, the findings of such an approach have implications for helping individuals become more effective learners and helping teachers better facilitate the learning process because the approach leads to an in-depth understanding of what happens "inside" the learner. By presenting the data in a descriptive fashion one can avoid both making attributions about causes of behavior patterns and making judgements about the appropriateness of people's actions and thoughts. Categorizing people according to behavior and judging the appropriateness of behavior or ideas does little to help one really understand people's perspectives and hence to more effectively facilitate their learning. When carried to extreme, such labelling and categorizing seems to encourage people to "fit" themselves or others into a particular mold and in so doing discourages a holistic view of the learning process.

A phenomenological approach which is descriptive enables the researcher to reveal the diverse ways in which people make meaning of their experience while at the same time organizing the presentation around major themes. This approach allows the reader the opportunity to view many of the original meanings expressed by the study participants and to then interpret the findings in a way that has meaning for them.

HEURISTIC RESEARCH

Lee Davies
Consultant, Teaching-Learning Unit
Scarborough College, University of Toronto

Heuristic research emphasizes discovery of a personally experienced problem and provides methods to further investigate the problem.

The researcher's own experience and the experiences of others are included in the data which are collected. The researcher must acknowledge the necessity of entering fully into the research process. Participation and interaction with the people and things that are part of the phenomena are essential to the discovery process. In the investigation, both those we interact with and ourselves are altered as we develop personal knowledge.

Moustakas ("Heuristic Research" in J. F. Bugental, Challenges of Humanistic Psychology, 1967) has outlined a number of stages in the heuristic process. The first stage is that experience leads to awareness of a personally significant problem,a crisis. Then, there is a search of self in which the depth of the issue is developed. An expanding awareness of the problem comes from being open to one's own experiences and by watching others. When this immersion into the issue has occurred for some time, an intuitive grasp of patterns in the relationship of the issue to experience takes place. These tentative guidelines may direct a study of the lives of others and of published reports. Finally, a form or manuscript for presenting the personal learning about the issue is developed.

The research does not produce a statistical certain but unreal conclusion. What is produced instead is a communication of personal learnings. (Maslow, Psychology of Science, 1966). It is essential to the research to carefully record the process, to share our perceptions with those with whom we interact to monitor the effect of our interaction on others and to respect the rights of others not to take part in our search.

When the various components of the heuristic research approach have been honestly carried out and we communicate our personal learning, we can say to our participants, "this is our experience as I saw it", and we can say to research colleagues, "this is another variation on the possible explanations of the experience". (Mann, "Identity of the Group Researcher", In G. Gibbard, J. Hartman, and R. Mann, Analysis of Groups, 1974). Judgements about the research should be made on the basis of the faithfulness of the communication and whether or not sharing in this research enlarges the experience and understanding of others.

INTUITIVE APPROACH

Marge Denis
Educational Consultant

In undertaking a study on "Intuitive Learning Among Adults" (reported elsewhere as a separate study in these proceedings), I was immediately faced with the problem of appropriate research method.

The main methodological concern of this study at every level--research techniques, interpretation of the data, the presentation of the results--centered around the problem of consistency between the methodology used and the matter under investigation - intuitive learning.

A. Theoretical Background

Abraham Kaplan in The Conduct of Inquiry distinguished between logic of events, logic-in-use and reconstructed logic. When he speaks of the logic of events, he is using a transposed sense of the term logic, referring to necessary outcomes, connections and explanations contained in the events themselves (Kaplan, 1964, p. 8). Logic-in-use is a description of cognitive style which varies according to persons and circumstances; and reconstructed logic is the explicit formulation which serves to illuminate the logic-in-use when applied to an interpretation of the logic of events. The decline of Rome and Gibbon's interpretation and explanation of the fall is an illustrative example. Kaplan insists that "what makes a scientist's actions reasonable, sensible, intelligent, is not something in his psychology or in ours who are appraising what he does, but something in his problem and in the appropriateness to it of the operations of his understanding". (Kaplan, 1964, p. 18).

In the study on "Intuitive Learning Among Adults" the logic of events refers to the actual phenomena of intuitive learning in which intuition, which is a logic-in-use, plays a major role. The problem therefore became one of trying to remain as faithful as possible in the reconstructed logic to this phenomenon. It soon became apparent that the methodology itself, in order to be appropriate to the problem, had to be primarily an intuitive process. The reporting of the completed study is the reconstructed logic of this intuitive process. It is essential to focus attention, not on these products of the inquiry, but to be ever mindful of the process itself of the inquiry, a process which we have mentioned is an intuitive one. This method is not unlike Rilke's advice in his Letters to a Young Poet where he counsels the poet:

> "Do not now seek the answers, which cannot be given you because you will not be able to live them. And the point is, to live everything. Live the questions now. Perhaps you will then gradually, without noticing it, live along some distant day into the answer." (Rilke, 1954, p. 35)

B. Methodological Stages

Intuitive methodology can be described as follows:

1. Intuitively, the researcher has a general mind set and/or framework which delineates the area being researched - in this case, intuitive learning. There are no pre-set plans or methods of approach. The logic-in-use is concerned not with a set of given procedures but is occupied with the factors of the problem at hand (Kaplan, 1964, p. 17). This process is similar to what Kaplan terms the logic of discovery - "the strategy of playing the game" (Kaplan, 1964, p. 16).

2. When concentrating on the factors of the problem, an active alert 'waiting' for the breakthrough regarding the next step or direction is of prime importance.

   How is a breakthrough - whether it be a chance discovery, a lucky find, or one of many ideas - recognized as the avenue to follow? This feeling of certainty is based primarily upon a physical sensation of a magnetic force which draws one in a specific direction; this magnetism is experienced as external to oneself and comes from the "event" outside oneself. Subjectively, the breakthrough is experienced by a feeling of high energy and creative tension which is fused with excitement, certainty and commitment. These feelings are not necessarily connected with any clarity of the proposed step; indeed, sometimes the proposed course of action seems rationally absurd.

3. In intuitive methodology the next step follows from or is contained in the previous stage. The cumulation of previous stages in the research influences the development of the later stages. The pattern is a continual cycle of centering upon the factors at hand (which are continually growing and changing), active waiting,

262

> recognition of breakthroughs and embarking on a further course of action, often proceeding without rational considerations. Of prime importance in the entire process is the awareness of serendipitious events and the relatedness of synchronous happenings which occur within the general framework established at the beginning of the research.

This approach is particularly appropriate for research questions involving two dissimilar concepts that are brought together to describe a phenomenon that has not been investigated previously. Without preconceived ideas and/or hypotheses, the researcher is open to unexpected possibilities and avenues of knowledge.

HERMENEUTICS: INTERPRETATION AS A MODE OF FORMAL INQUIRY

Marilyn Taylor
Concordia University
Department of Applied Social Science

'Hermeneutics' is a derivative of the Greek verb 'Hermeneuein" which translates, "to interpret", "the process of bringing to understanding (Palmer, 1969, p. 13). The act of interpreting in social science inquiry has been described by Charles Taylor (1971) as "an attempt to make clear, to make sense out of an object of study."

> The object must, therefore, be a text or text-analogue, which in some way is confused, incomplete, cloudy, seemingly contradictory--in one way or another, unclear. The interpretation aims to bring to light an underlying coherence or sense. (p. 1)

In the example of my own research, the text-analogue was learners' reports over time of their experience of learning. My task in working with these data gathered in open-ended interviews was to draw form and patterns out of this apparently chaotic record of happenings. By adopting a thorough-going hermeneutical approach in working with the data, my method of study stands in contrast to qualitative approaches which employ pre-determined theoretical frameworks or classifications for the data (including the use of fixed interview schedules) as well as qualitative approaches which adopt pre-set methodological operations for analyzing data collected. The outcome of my study was an interpretation in the form of a theoretical framework which was derived from a direct involvement of myself in the particulars of these records of experience. Both categories and methodological operations emerged out of this involvement rather than my involvement being mediated through them from the outset.

Questions raised at this point might include: is it not possible in this thorough-going interpretive approach to construe an object of study in any fashion at all? How does one eliminate personal bias? What of the concerns for objectivity and validity?

To the first of these questions, an appropriate response from this hermeneutical vantage point would be that the object of study sets a range of possible interpretation. And, at the same time, to the second question, it is also maintained that it is neither feasible or desirable to eliminate personal bias from the interpretation. Within the range of interpretation set by the object of study, the particular interpretation which emerges is reflective of the researcher's own assumptions and beliefs. Colaizzi (1978) states:

> ...Meanings are given with the protocol but are not in it; so the researcher must go beyond what is given in the original data and, at the same time stay with it. (p. 59) (author's emphasis)

The outcome of the study derives from both the nature of the object of study and the disposition of the researcher. Bias or prejudice or preunderstanding is regarded as a necessary part of the process of making sense, as philosopher, Hans-Georg Gadamer, observes:

> To try to elimate one's own concepts of interpretation is not only impossible but it is manifestly absurd. To interpret means precisely to use one's own preconceptions so that the meaning of the text can truly speak to us. (p. 356)

What then of the concerns for objectivity and validity? Fidelity to the object of study is pursued through a disciplined process of alternating conscientious involvement (coming to know the data) and distancing of one's self from the phenomenon (in order to observe limits and be open to disconfirmation). Ultimately, objectivity is also a social matter. "Objectivity within the context of a hermeneutical paradigm would be a refinement of the interpretive process of intersubjective meaning" (Sullivan, 1978). Continuing with the example of my own study, the theoretical framework which I generated will be assessed by persons who try to use it as a means of understanding their experiences of learning. Adult learners will make judgements about its validity in the light of: (1) their own practical circumstances, and (2) their own prejudices and preunderstandings.

From this perspective, all approaches to formal inquiry are seen to have an interpretive dimension, in some cases, imbedded in and expressed through predetermined categories for data or pre-set methodological conventions. Accountability in inquiry is seen to involve an attempt to "convey not only what is understood but also the perspective from which it is understood." (Keen, 1975, p. 40).

References:

Colaizzi, P. Learning and Existence. In R. Valle and M. King (Eds.), Existential Phenomenological Perspectives for Psychology. Toronto: Oxford University Press, 1978.

Gadamer, H.G. (Truth and Method) (G. Barden and J. Cumming Eds. and Trans.) London: Sheed and Ward, 1975. (Originally published, 1960).

Keen, E. A Primer in Phenomenological Psychology. New York: Holt, Rinehart & Winston, 1975.

Palmer, R.E. Hermeneutics. Evanston: Northwestern University Press, 1969.

Sullivan, E.V. Psychology as an Interpretive Activity. Unpublished manuscript, Ontario Institute for Studies in Education, 1978.

Taylor, C. Interpretation and the Sciences of Man. Review of Metaphysics. 1971, 23 (1), 3-51.

RESEARCH ON CONTINUING PROFESSIONAL EDUCATION: METHODS USED IN AND FINDINGS FROM THREE RESEARCH PROJECTS

Organizer: James A. Farmer, Jr.
University of Illinois at Urbana-Champaign

Explicity Relating Continuing Professional Education To Professionals' Real-Life Problem-solving Efforts: Part I

Mary Bea Walker, Ph.D.
Office for the Study of Continuing Professional Education
College of Education
University of Illinois at Urbana-Champaign

This paper is the first of a two-part presentation about a study on explicitly relating continuing professional education to the real-life problem solving efforts of professionals. This paper concerns the need for that study and methods used in it.

In 1967, William S. Griffith, a professor of continuing education, responded to a request from the American Academy of Orthopaedic Surgeons (AAOS) to help professors to orthopaedic surgery improve orthopaedic education. After a three-year developmental effort reported in Griffith and McConaghey (1972) and Miller (1971), James Farmer, another professor of continuing education, was asked to implement what had been developed. He has done so, working with the AAOS Graduate Education Committee and several professors of orthopaedic surgery appointed by that committee.

Increasingly since 1972, those involved in this effort have realized that orthopaedic problem solving--diagnosis and treatment--and ways to help persons learn such professional problem solving are central to orthopaedic education for medical students, orthopaedic residents and orthopaedic practitioners. Those involved in this effort have found that educational theories about learning to solve problems refer, for the most part, to other types of problem solving than those typically engaged in by orthopaedic practitioners.

Farmer received funding from the AAOS Graduate Education Committee to do research during 1978 to understand more adequately the nature of orthopaedic problem solving and what helps persons learn to solve orthopaedic problems. Frederick G. Lippert III, M.D., Chief of Orthopaedics, the VA Hospital, Seattle, Washington, and Michael Schafer, M.D., Chairman, Orthopaedic Education Committee, Northwestern University, collaborated with Farmer in this research. Lippert and Schafer arranged field observations and interviews by Farmer at the orthopaedic programs in several hospitals in Seattle and Chicago. Literature research on the topic was conducted by Farmer and by Mary Bea Walker through the Office for the Study of Continuing Professional Education (OSCPE) at the University of Illinois at Urbana-Champaign (UIUC).

The literature search found that works of Klein and Weitzenfeld (1967a, 1967b) and of Davis (1973) were particularly germane to understanding real-life professional problem solving. Especially pertinent in these references were: the distinction between well-defined and ill-defined problems;

discussions of heuristic processes; descriptions of ways to solve real-life problems. Drawing upon these references and data from the field observations and interviews, real-life professional problems were conceptualized as ranging from well-defined to ill-defined, with the middle range being referred to as moderately well-defined. A *well-defined* professional problem has a solution and one that is clearly preferable. A *moderately well-defined* professional problem has more than one acceptable solution. In both well-defined and moderately well-defined professional problems, a small change in the problem results in only small changes in the solution(s). An *ill-defined* professional problem may have no solution or may have more than one. However, for ill-defined problems, the solutions change a great deal with small changes in the problem. Routines help professionals solve well-defined problems; heuristic strategies, ill-defined ones.

Further, the literature search suggested that the need to understand more adequately professionals' real-life problem-solving efforts and learning such problem solving is not only a pressing concern in orthopaedic education but also in other types of preparatory and continuing professional education (Argyris and Schon, 1977; Schein, 1978).

To understand more adequately the nature of efforts of professionals to solve real-life well-defined, moderately well-defined and ill-defined problems and learning relevant to each, professionals in several fields (aviation, educational administration, engineering, continuing education administration and medicine) were interviewed. A single subject design (Heal, 1978) was used in developing a schedule of open-ended questions. Data were obtained through the use of "elite and specialized interviewing" (Dexter, 1970) which focuses on experiences of the professionals interviewed. Farmer and Walker interviewed professionals in the fields of engineering, medicine and continuing educatio administration. Marton Burlingame, a professor of educational administration at UIUC, assisted in obtaining interviews with, and interviewing educational administrators. Stan Trollip, a professor of educational psychology at UIUC and instructor at UIUC's Institute of Aviation assisted in interviews with professional aviators. Preliminary findings from interviews with twenty-five professionals in the fields specified above are presented in the accompanying paper by James Farmer.

Explicitly Relating Continuing Professional Education To Professionals' Real-life Problem-solving Efforts: Part II

James A. Farmer, Jr., Associate Director
Office for the Study of Continuing Professional Education
College of Education
University of Illinois at Urbana-Champaign

This paper is the second of a two-part presentation of a study on "Explicitly Relating Continuing Professional Education to Professionals' Real-life Problem-solving Efforts." It discusses the implementation of that study and preliminary findings.

Traditionally, continuing professional education has been provided on the assumption that it will contribute to professional practice that is largely diagnosis and treatment of professional problems. As a result of observations and interviews, professional subjects were found to be able to describe continuing professional education activities in which they had participated, and, more generally, their learning activities, but were found to have difficulty in explicitly relating those self-directed or mentored learning activities to changes in their professional performance. Doing this was found to be even more difficult when the professional subjects were asked to relate those learning activities and what they derived from them to their professional efforts to deal with real-life professional well-defined, moderately well-defined, and ill-defined problems (defined in Mary Bea Walker's accompanying paper). Nevertheless, professional subjects expressed a strong need for understanding more adequately explicit relationships between continuing professional education and their real-life problem-solving efforts.

As a result of repeated probes and interviews following observation of professional problem-solving efforts, a very different approach to relationships between professionals' learning activities and changes in professionals' efforts to solve real-life well-defined, moderately well-defined, and ill-defined problems was identified. That approach starts with specified changes in professionals' efforts to deal with well-defined, moderately well-defined and ill-defined, real-life problems, and then focuses on what the professionals learned that helped them make those changes, the nature of the related learning activities, and the situations in which those learning activities occurred.

In subsequent interviews which asked questions that reflected that different approach, all of the professional subjects, who were in six professional fields, were able to provide rich, specific data about specific changes, as well as the learning that helped bring about those changes, their related learning activities, and the situations in which those learning activities occurred. Further, they were able to provide details about what helped and hindered them in this regard. For example, aviators were able to identify recent changes in their dealing with real-life well-defined problems, such as a new routine for landing, and specified what they learned that assisted them in adapting to the new routine. Moreover, they were able to specify the learning activities in which they learned to do this and the situations in which those activities occurred. Furthermore, they were able to identify specific changes in their handling of what, for them, were ill-defined problems, such as losing all impulse power while flying over mountains. With the assistance of check lists developed by Farmer and Walker and provided to the professional subjects by the interviewers, interviewees were able to specify what they had learned, including heuristic strategies, the nature of associated learning activities, and the situations in which those activities took place.

Analysis of data from the twenty-five professionals interviewed in six professions indicated:

1. Professional subjects often initially denied that they had had recent changes in the ways they dealt with either well-defined or ill-defined problems. Those denials have tended to collapse when interviewers have probed for specific examples of well-defined or ill-defined problems that the subjects have recently encountered.

2. When shown a check list of heuristic strategies for solving ill-defined problems and when learning efforts associated with these strategies were discussed, there was evident heightened interest of the professional subjects in those strategies for their potential use in dealing with other real-life, ill-defined professional problems.

3. Interviewees most frequently indicated that what helped them in their learning efforts directed at dealing with specific, ill-defined professional problems included: informal guided inquiry, usually in the form of discussions with colleagues; specialized use of check lists; and modified brainstorming.

4. Professional subjects indicated that obtaining specific information relevant to their particular real-life professional problem-solving efforts most frequently helped them learn to deal with real-life well-defined, moderately well-defined and ill-defined problems, rather than stock-piling potentially useful information through trying to keep up routinely and systematically with proverbial "blizzards" of technical reports and other publications in their fields and in related fields.

We do not know if subsequent interviews with other professionals will substantiate these initial generalizations.

References

Argryis, C. and Schon, D. A. Theory and Practice--Increasing Professional Effectiveness. San Francisco: Jossey-Bass, 1977.

Davis, G. Psychology of Problem Solving: Theory and Practice. New York: Basic Books, 1973.

Dexter, L. A. Elite and Specialized Interviewing. Evanston: Northwestern University Press, 1970.

Griffith, W. S. and McConaghey, P. L. "An Evaluation of the Effectiveness of a Residential Adult Education Workshop in Changing the Behavior of Professors of Orthopaedic Surgery." (A report to the American Academy of Orthopaedic Surgeons), Chicago: The University of Chicago, July, 1972.

Heal, L. W. "Threats to Validity of Single Subject Designs," (unpublished paper). Urbana, IL: The College of Education, University of Illinois at Urbana-Champaign, Sept. 1978.

Klein, G. A. and Weitzenfeld, J. "General Description of Human Problem Solving," (Report #AFHRL-TR-76-44). Air Force Human Resources Laboratory, Air Force Systems Command, Brooks Air Force Base, Texas 78235.

Klein, G. A. and Weitzenfeld, J. "Training People to be Better Problem Solvers." Paper presented at the meetings of the American Psychological Association, Washington, D.C., 1976.

Miller, W. E., M.D. "Technics of Medical Education in Orthopaedic Residency." Clinical Orthopaedics, No. 75, March-April, 1971, pp. 65-79.

Schein, E. H. Career Dynamics: Matching Individual and Organizational Needs. Reading, MA: Addison-Wesley, 1978, pp. 135-136.

HEALTH PROFESSIONS CONTINUING EDUCATION
SYSTEMS PROJECT (CESP)[1] [2]

Emanuel Suter, M.D.
Association of American Medical Colleges
Washington, D.C.

Project Background

Continuing education (CE) of physicians and other health professionals is no longer the exclusive concern of the individual professional. It has become a public issue in so far as health professionals for their CE must conform to some public accountability requirements. At present these requirements usually are limited to specified hours of CE without prescription as to content or quality. It is left to the professions and their voluntary organizations to design and prescribe the kind of CE that will at the same time satisfy public accountability, professional need for performance related learning, and preserve individual desires for initiative and independence. Our presentation will address CE in this context and give a preliminary report on approaches taken by the Association of American Medical Colleges and the Division of Continuing Education in the Office of Academic Affairs of the Veterans Administration in a joint project referred to as the Continuing Education Systems Project.

Project Related Processes and Concerns

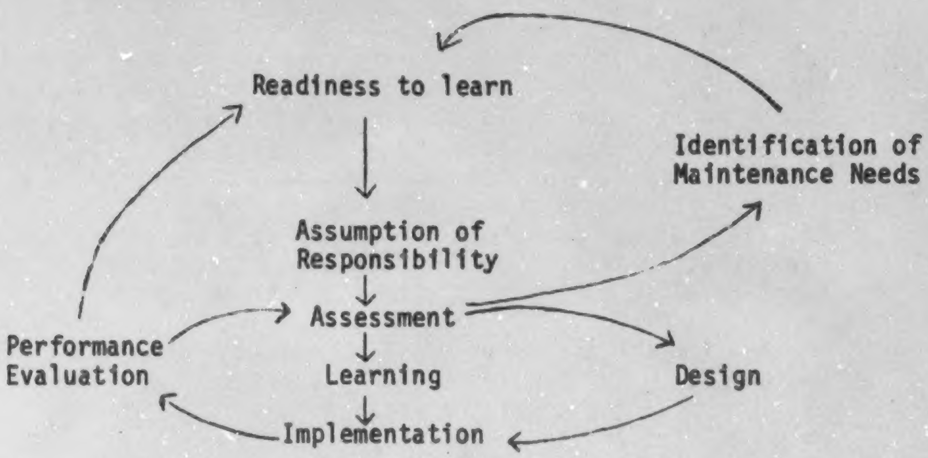
Educational approaches which have evolved for undergraduate health professional's education (including medical students) and for graduate medical education (residents) have usually been applied indiscriminately to CE of health professionals. The objectives for the latter usually are determined by the instructional provider from the body of knowledge available and familiar to the teacher, and thought to be interesting to the practitioner and/or applicable to practice. In addition, the educational institution controls the setting in which learning occurs and in which it is applied by the learner to practice. For CE however, this is not possible and therefore different approaches are called for. Some of the processes and concerns related to these situations and paramount to the project are:

1. The Professional Learning Process is the basis of professionalism. It deals with the professional person as a learner and provider of professional services. The key process components and their linkages are depicted in the diagram on the following page.

---

[1] Supported by the Veterans Administration Exchange of Medical Information Agreement No. EMI-78-002-01

[2] CESP represents a collaborative effort of AAMC and VA project staff assisted by several committees. Staffs and committee chairmen are as follows: John Chase, M.D., James Hudson, M.D., Alan Knox, Ed.D., William O'Connor, Ph.D., Floyd Pennington, Ph.D., Wendy Waddell, M.A., and David Walthall, M.D.



Briefly defined these components are: maintenance (cognitive and affective psychomotor skills, physical and psychic health, self concept, and values); responsibility (for assessing personal learning needs, developing personally relevant standards, motivation and linking personal and societal values); assessment (by performance analysis, peer review, audit, self awareness, information seeking behavior, relicensure/recertification information, patient information); design (setting of objectives, selection of learning activity, learning styles, practice application); implementation (actual application by change of practice behavior); and evaluation (in terms of competence and performance, patient care outcome, cost and personal satisfaction).

The individual physician has the responsibility for the professional learning process and is assisted by the providers as facilitators. The professional learning process is based on the application of adult learning concepts, on problem solving capability and on lifelong learning attitudes of the learner.

2. Internal and external linkages integrate the various components of the learning process and relate them to external facilitators or providers of learning opportunities and resources. The relationships between the professional as a learner and health care provider and the provider of learning opportunities and of health care standards are of a complex nature. The sum total of internal and external linkages between learning opportunities and professional responsibilities is described as the CE learning system.

3. Quality control and documentation are the basis for public accountability. Quality control is provided by accrediting and credentialing agencies. Through accreditation, the Liaison Committee on Continuing Medical Education addresses the quality of the instructional/learning interface, while the specialty and state medical boards deal with the competence of the individual professional through certification.

Project Tasks and Approaches

The project deals with diverse issues requiring both a deductive and inductive analysis and problem solving approach. Chief among these issues are:

(a) The identification of learning concepts and of systems components and needs: Experts from diverse fields have been brought to the project as the Adult Learning Working Group and the Systems Working Group respectively. These groups are responsible for developing criteria and standards for a CE system so it may be implemented and evaluated.

(b) The analysis and study of interrelationships between various key variables: A systems dynamics model has been developed which provides for a detailed analysis of alternatives and options.

(c) The implementation of any findings and recommendations emanating from the project: Two project Steering Committees address the realities of CE. One Steering Committee represents the operational health care components of the VA system while the other Steering Committee brings to the project the reality of professional organizations and their interest spheres.

Project Report

Preliminary results of the work of the two Working Groups and of the Steering Committees will be reported. A brief overview of the system dynamics model will also be presented.

Application of Grounded Theory in Study on Program Development

Floyd C. Pennington, Ph.D., Director
Office of Continuing Medical Education
University of Michigan

A theory allows for the prediction of patterned behavior from a set of propositions consisting of defined and interrelated constructs set forth to present a systematic view of a phenomenon.

In the absence of detailed descriptions or reasoned interpretations of patterns of human or organizational behaviors from which consistent predictions can be made by researcers the investigator must engage in a process of combining generalized explanations of the phenomenon of interest. The data collection and analysis techniques of grounded theory provide a rationale for this type of inquiry.

Glaser and Strauss describe a naturalistic process of data collection for generating theory. The researcher concurrently collects, codes, and analyzes the data before deciding what to collect next and where to find more information to develop the theory as it emerges. The criterion for deciding when to stop sampling the groups pertinent to a category is the category's theoretical saturation. Theoretical sampling will provide different views or vantage points from which to understand a category and to develop its properties. These views are called slices of data. The theory is then generated by collecting the coded data on each category, crosschecking for validity and strength of relationship, and developing hypotheses to be empirically tested.

This study was designed to discover and describe approaches to program development used by persons planning continuing professional education programs for physicians, social workers, and teachers. From the descriptions of practice in these professions, a general model of the program development process was constructed.

There are five clusters of activities that planners attend to somewhat sequentially as they design and implement continuing professional education programs. The clusters are roughly analogous to the notion of categories, a term used in grounded theory. The clusters are:

1. Program Origin - interactions between planners and a wide variety of sources for program ideas.

2. Specific Program Activities - processes engaged in to create boundaries and specificity around vague and general ideas.

3. Program Commitment - activities that formalize the previous activities and confirm that the program is needed and resources are available to conduct the activity.

4. Course Development - instructional design.

5. Program Analysis - the constant monitoring of planning and learning activities that permit judgments on impact.

In addition to these clusters of activities planners continuously link to three resource systems: representatives of the learners; internal resources of the parent organization; and, resources external to the parent organization.

The planner is that person who assumes the main responsibility for linking the resource system to the planning task and the learning needs of the professionals. He does this by drawing upon the resources essential to complete the specific planning activity being attended to. Unique resources are needed at different times during planning to keep the program development process moving.

Planners are free to move in and out of the resource systems and development clusters in the way they determine most effective in accomplishing the task. Activities in several clusters may be occurring concurrently using resources from one or more of the available systems. It has been indicated that the clusters occur somewhat in sequence, but not so one could say this cluster must be complete before moving to the next one. The step-by-step development process is situationally specific, with planners style and critical tasks intermingling, shaping the planning in different ways from activity to activity, institution to institution, and profession to profession.

Planning continuing professional education programs is a highly individualistic activity as the planner moves through the development process. There are, however, clusters of activities that planners attend to somewhat in sequence. The decisions they make to keep the program development process moving involves consideration of the environment in which they are operating, internal and external constraints and resources, and the possible outcome of the selected alternative. The more effectively the planner deals with these issues, the more effective and efficient the program development process will be.

PUBLIC INVOLVEMENT: AN IDEAL TO BE QUESTIONED?

Organizer: Joan W. Wright
North Carolina State University

On the Philosophy of Citizen Participation

Robert Jackson
North Carolina State University

History records a constant struggle for the degree of expected, granted and legitimated citizen participation. From the Ecclesia of Athens, the fiefdoms of the Middle Ages, and the city-states of the Renaissance to the town meetings of the Pilgrims and on through the Cooperative Extension Movement, the poverty programs of the 1960's and the civic literacy programs of the 1970's, individuals and groups have attempted to assert a collective participatory voice in the affairs that affect their lives.

However, as such groups became too large or as they tried to influence larger bureaucratic entities, the formation of oligarchical elites became the norm. The struggle persists today with somewhat clear battle lines for the philosophical debate, but with no clear parameters for who will wage the battle for either side. Indeed, ambivalence prevails among professional administrators, philosophers, field organizers and lay citizens. Educators and other public administrators find it much easier to help people adapt to present conditions than to provide supportive, educative options for helping people learn to influence the social conditions of their lives.

Citizen participation is defined here as a decentralized process wherein all citizens of a community have access to necessary and relevant information pertaining to knowledgeable decision-making and exercise power over decisions related to themselves and the general affairs of the community. At question are the notions of who rules, who should rule, and why. This is an old political, moral and ethical debate. In Western political philosophy, "Classic" democratic philosophers such as Rousseau, Mill and Jefferson saw participation as a process "to increase the citizen's awareness of his moral and social responsibilities, reduce the danger of tyranny, and improve the quality of government" (Walker, 1966).

In the 20th Century, "contemporary" democratic theorists such as Joseph Schumpeter, Bernard Berelson, and Robert Dahl emerged and supported the notion that democracy is only a representative process with the role of the average citizen limited to selecting from among competing elites those who should hold office. The emphasis in contemporary theory is placed on the control, stability and renewal of the system rather than on the development of the individual (Cole, 1974).

More recently, a group of "participatory" democratic theorists have emerged who see citizen participation as a sociological and political science problem. From the sociological view, postwar American society has seen major breakdowns in family, job, church, and community. As a consequence, people have looked to the state for their sense of community. This new dependence on centralized authorities and agencies has tended to routinize patterns of participation and atomize levels of commitment.

The political science analysis of participatory theory is mainly concerned with the effects of non-participation on the individual's psychological and educational development. Indeed, Peter Bachrach (1967, p. 101) states that "the majority of individuals stand to gain in self-esteem and growth toward a fuller affirmation of their personalities by participating more actively in meaningful community decisions." Jack Walker (1966) has argued that "by taking part in the affairs of his/her society the citizen should gain in knowledge and understanding and develop a deeper sense of social responsibility and broaden his perspectives beyond the narrow confines of his private life." Carole Pateman (1970, p. 43) succinctly states this "neoclassical" position: "One might characterize the participation model as one where maximum input (participation) is required and where output includes not just policies (decisions) but also the development of the social and political capabilities of each individual."

Important, then, is how will citizen participation be utilized in the future? The advocates of a full participatory democracy argue the internal view that 1) man is a reflective creature who is propelled to develop and expand his role in the universe (de Chardin, 1959); and 2) participation is a means to an end, i.e., an informed, committed citizenship and democratic character free from alienation and anomie. Those advocates of a representative democracy (partial and pseudo-participation) follow a Skinnerian model which states that man has lost his autonomous inner self. They propose that because of an apathetic or hostile mass and due to limitations of shared knowledge and technical expertise and the alleged loss of efficiency in participative decision-making, centralized representative democracy led and regulated by expert elites is the most functional, effective model in this technological age.

The dilemma exists: Is this an either-or situation? The challenge is to design a participatory future amidst an incredibly complex, inconsistent, and confusing system of individuals, groups and organizations bound together by conflicting and competing philosophies and traditions. Can we continue to exist ambivalently within the present structure of bureaucracy? The answer is probably yes. However, can we facilitators of life-long learning, who ostensibly profess a commitment to human fulfillment and growth, be released to reach our potential without having the freedom to choose and decide on those issues which affect our lives?

The Forms of Public Participation[1]

Peter Burke
North Carolina State University

After one has examined the philosophical merits of public participation in social and political activities, the core problem of developing research in this area is in defining exactly what public participation is operationally: how one then measures the variables affecting both the process and "products" of participation.

The primary question is "What does public participation look like?" To begin to answer that question, one can first look to the structural settings for public participation. The number and variety of those structures implies consequent problems in measurement. This country abounds with participatory structures for public involvement: parent-teacher associations, community block clubs, political parties, consumer organizations, and labor unions, to name but a few. With such a broad spectrum of participatory structures, the measurement problem becomes one of selecting the most appropriate groups(s) for measurement.

---

[1] The basic issues presented here originate in the "Citizen Participation" course given by Dr. Allan Steckler in the School of Public Health at UNC-Chapel Hill in fall 1978. Elaboration and presentation of these issues are those of the author.

One possible way to differentiate among the structures noted above would be to further delineate participation by analyzing the potential degrees of action/power involved. Public participation could be defined solely as passive activity. If one goes to listen to a political candidate speak, that is a form of participation. But is public participation more than that? It could be seen in advisory bodies (such as advisory councils to regional aging programs) in which the activity extends to discussion of and advice about program plans and policies. There is yet one "higher" stage to this analysis, the degree of decision-making power involved in participatory structures (e.g., in community development projects). When one attempts to measure the latter, the main problem comes in deciding what form that participation takes (e.g., goal-setting, program implementation, or evaluation). Hopefully this sort of differentiation will help the researcher clarify the task of cutting down the field to a manageable group of structures for study.

In trying to address the question of the concrete manifestations of public participation, one must also discover who is participating. The first aspect of the who question is representativeness. Participants can be thought of as representing geographical areas, as do many elected officials; participants can represent definite social groups, as do members of ethnic groups--often in proportion to their numbers--on community social service advisory boards; and they can represent professional groups, as do medical professionals for health services agencies. Naturally, the variants upon these three basic types of representativeness are many, which leaves the researcher with the problem of first deciding what form of representativeness to focus upon and then how to determine in what way individuals do indeed represent their groups.

The final aspect of defining the forms of public participation is the ecological support system for such participation, which has a number of elements, the first of which is the environment for participation. At its simplest, that could be a neighborhood with participation through a neighborhood improvement council. Beyond that are environments with broader geographical scope: towns/cities (e.g., with a city appearance commission); regions (e.g., with a regional economic development committee; and the larger levels of state and nation (with numerous advisory groups).

Another ecological element is the interactive set of inputs within the participatory structure itself. Participant characteristics and the degrees of influence, power and activity will vary. Also, there are multiple aspects to both group and individual growth in knowledge, skills, and attitudes.

The final element to consider is what the "products" of public participation are within whatever structure is examined. They can take many forms. The most accessible forms are those that are more concrete: actual decisions made, plans drawn up, or physical projects completed. The primary difficulty is when a "product" is process-oriented. Then research becomes much more difficult, for one must look more closely and thoroughly at the effects of public participation. Potential areas of focus are the levels of individual and community satisfaction, the distribution of social benefits, differences in quantitative and qualitative aspects of participation, correlations between degrees of participation and the "products", and whether or not human problems were significantly alleviated.

In conclusion, to elaborate upon the ecological system of public participation (as well as the other aspects described) is to give the basic measurement problem for the researcher in this area: to determine--among all these possibilities--what might be the significant relationships and then to test those relationships. The forms of public participation available for study are almost overwhelming in number. Among those forms, a few examples have been cited here, and some differentiation can be inductively discerned.

Quantifying Participation in Planning Adult Education Programs

Robert D. Fox
North Carolina State University

Although many praise the "democratization" of public and private organizations which they believe accompanies expanded public participation, many complain of the failure of public representatives to fit into the complex processes which characterize many modern organizations. This criticism is often associated with expanded participation in planning processes where experts dominate. What is known about the impact of varying degrees of participation on such organizational processes as planning is based on thoughtful conjecture and a number of case studies, each of limited scope. In order to expand this fund of knowledge, a means for assessing the nature and extent of participation in such processes as planning must be advanced.

The purpose of this paper is to present a general framework for quantifying participation in educational program planning. In order to accomplish this purpose, program planning in education is conceived as a multi-dimensional process composed of four sub-processes, each of which in turn contains at least four tasks. The location of participants within these sub-processes and tasks allows the researcher to assign values along an index indicating the extent of participation of each member of a planning group.

Four major sub-processes may be thought of as essential elements in the program planning process: the assessment of learner needs, the formulation of educational objectives, the design of the teaching/learning experience, and the evaluation process. Many writers elaborate in detail on each of the four sub-processes but few would eliminate any of them from their prescriptions for planning educational programs. Consequently, these sub-processes are offered here as the basic components of program planning for adult education.

In turn, each of these sub-processes is composed of at least four separate tasks: 1) the provision of information relevant to each of the four sub-processes; 2) the analysis and interpretation of that information; 3) the formulation of alternative strategies, objectives or designs; and 4) the commitment to implement one or more of the alternatives in regard to each of the sub-processes.

The following serves as an example of how each of these tasks are operational in regard to objectives:

280

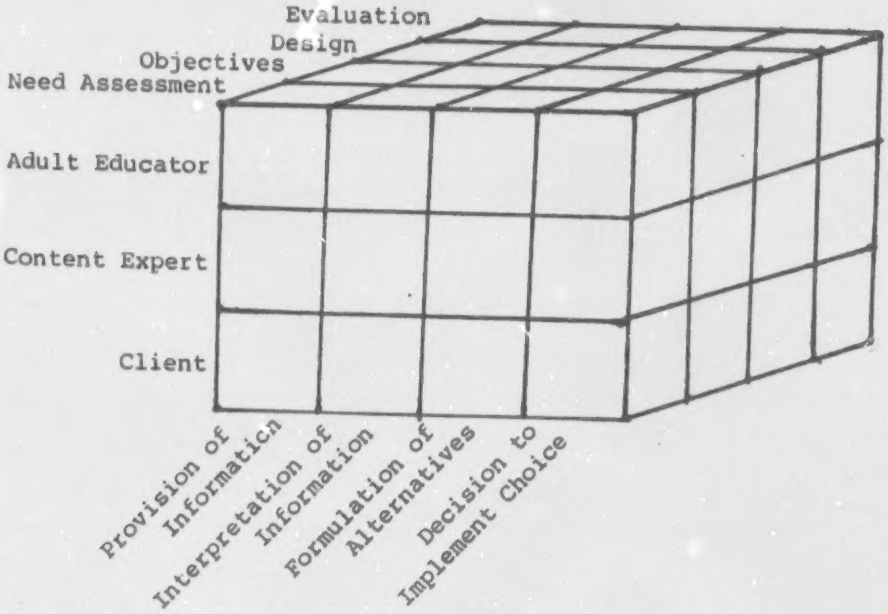
1. Information on the various facets of a community educational problem are shared in a group setting by members of a community action agency, a member of a college faculty and an adult educator.

2. Each member contributes his or her interpretation of the information provided by the others in regard to the problem.

3. Each member of the planning group proposes objectives which, if achieved, will ameliorate the problem.

4. After negotiating over the cost and time which may be devoted to the educational effort, the adult educator and the client representatives agree to implement three of the six alternative objectives.

The diagram presented below depicts a three-dimensional matrix which describes the relationship between the four tasks, the sub-processes and individual participants.


Evaluation
Design
Objectives
Need Assessment
Adult Educator
Content Expert
Client
Provision of Information
Interpretation of Information
Formulation of Alternatives
Decision to Implement Choice

By assigning a value to each cell of the matrix, the extent of participation of each individual involved in planning the program may be assigned a total value. For example, participation on the part of the adult educator in every task of each sub-process of program planning would sum to sixteen. On the other hand, if the adult educator only managed the planned program and did not participate in any of the tasks composing the sub-processes of program planning, this would be indicated by a value of zero. Thus a bound index is formed, according to which the extent of participation of each member of the planning group may be ordered and compared.

Although the means of quantifying participation provided by this index is crude, it does allow the researcher to use non-parametric statistical techniques at the ordinal level of measurement. This allows the researcher to use more sophisticated research designs, which in turn increases the scope and reliability of research into participation on program planning.

Evaluation of Public Participation

Joan W. Wright
North Carolina State University

A great deal of attention has been paid to whether and to what extent there is opportunity for participation in many aspects of public life. Relatively little attention has been given to determining the effects of public participation. The following discussion is based on public participation within water resource planning, since that is an area of planning in which a formal public involvement effort is generally mandated. The points made, however, may be relevant in any area in which a conscious effort is made to involve one or more publics in the planning process.

Bennett (1976) offers a useful means for identifying alternative foci of program evaluation in his hierarchy of output levels. Applying this to programs of public participation, the results of inputs are first evident in ACTIVITIES such as sending out reports, publicizing planning efforts, organizing advisory committees, and holding public meetings. The majority of the evaluative work that has been done bases judgments on the congruency between an ideal model or specified procedures for public participation (e.g. the policies of the Corps of Engineers or the standards of the Environmental Protection Agency) and the form of the activity actually conducted.

A major concern at the next level, PEOPLE INVOLVEMENT, is whether the publics whose interests are at stake are adequately represented in the planning process. Extent of participation and representativeness of participants are frequently employed as measures of the effectiveness of public involvement programs.

Reactions of participants to the public involvement effort include their satisfaction with the process and their perception as to the extent to which their inputs were sought, understood and considered in the development of a plan. In some cases the extent to which citizens believe their contributions had been incorporated into a plan is the measure used.

Relatively few studies have examined higher levels of program results, such as knowledge, attitudes, skills and aspirations gained from the participation effort; the translation of these learnings into action or purposive non-action; or the cumulative results of individuals' actions taking into account interactive and environmental factors. It is at these levels that greater attention should be directed if we are to avoid a "form-over-function" attitude toward public participation programs.

One problem in evaluating public involvement efforts is an apparent lack of attention to the purpose(s) which each is intended to serve. Such purposes, for example, might include increasing the awareness of citizens as to the need for water resource planning; building support for a preconceived idea or stance; forestalling later complaints related to the plan or planning process; providing a scapegoat for an unpopular decision; satisfying requirements for involvement with minimal investment of resources; and inventorying as completely as possible the interests at stake in a particular planning situation. These are obviously not all compatible within one public involvement effort. If study of public participation is to move beyond description of how well public hearings are conducted, it should be designed to examine the extent to which particular techniques have accomplished particular objectives specified *a priori*.

One instance of a strategy-specific evaluation might be the study of local elected officials' support for proposed legislation regulating water use and consumption in the state, assuming that was a primary objective of the public participation effort in a state water resource planning study. Another strategy-specific study might examine residents' support (or lack of public outcry) in regard to a proposed wastewater treatment facility, again assuming public involvement in planning the facility.

Regardless of the particular end(s) sought, there should be measurable learning outcomes in every public participation program. Five such outcomes are posited:

- awareness of the planning effort;
- appreciation of the nature and intensity of the multiple interests at stake in the planning effort;
- understanding the issues (i.e. matters at issue) and potential decisions involved in the planning effort;
- understanding the process by which these decisions will be/are made, and the ways in which the decision-making process may be influenced; and
- developing the participative skills appropriate to the degrees of power and influence involved.

These general measures of effectiveness may be directed to the learning outcomes of three publics involved in the water resource planning effort:

- official publics (e.g. local government officials, agency staff);
- interested publics (e.g. citizen groups, special interest organizations, actual participants in the public involvement activities of the planning efforts); and
- general public (e.g. residents of the area affected, but otherwise undifferentiated).

The extent to which each of these publics or their representatives in the planning process can be expected to acquire these learnings may be expected to vary with the particular techniques used and ends sought (i.e. the strategy) in the public involvement effort.

In summary, it is important in studying public participation to look beyond what was done towards what was accomplished through the process. For every public involvement effort one can expect learning outcomes among the participating publics, and these should be examined. Not every public involvement effort is intended to achieve the same ends; strategy-specific evaluation should complement study of the more general learning outcomes.

BIBLIOGRAPHY

Bachrach, P. The Theories of Democratic Elitism. Little, Brown and Company. Boston, 1967.

Bennett, Claude. Analyzing Impacts of Extension Programs. Washington, D. C.: United States Department of Agriculture, 1976.

Cole, R. L. Citizen Participation and the Urban Policy Process. Lexington Books. Lexington, Mass., 1974.

de Chardin, P. T. The Phenomenon of Man. Harper and Row. New York, 1959.

Pateman, C. Participation and Democratic Theory. Cambridge University Press. Cambridge, 1970.

Walker, J. L. "A Critique of the Elitist Theory of Democracy." The American Political Science Review. 1966, 60, pp. 285-295.

A GENERAL SYSTEMS APPROACH TO THE EXTENSION FUNCTION TO THE UNIVERSITY

Ernest Shapiro, The University of Manitoba

The growth of the university in the past two decades is reflected in all of its activities. There are more students, more degrees, more courses, more administration, more money -- in fact, more of everything, including more public and scholarly discussion about all aspects of the university. The extension activities of the university have also grown during this period. They have grown to the extent that in many universities, the number of persons in active contact through extension programs now equals or exceeds the number in traditional full-time degree programs. And yet, despite this dramatic growth, extension is barely mentioned in the literature of higher education.

Whatever the causes for this omission, it is clear that one can hardly claim to have constructed an adequate picture of the university when a large scale component such as extension is left out. One might speculate on the historical or contemporary reasons for this omission or, alternatively, one could offer a new view of the university which accommodates extension activities. A picture of the university that includes extension does not by itself confirm that this is an ultimately perfect picture; but, on the other hand, any conception of a modern American university must be regarded as inadequate if it omits extension activities.

This paper is an attempt to make a contribution to an increased understanding of the university by providing some theoretical grounds for examining the university in a way that will be more consistent with the extension phenomenon. It will do so by the application of General Systems Theory, which provides a set of concepts and constructs that should be applicable to the university, its components, and their relationships with each other. Most important, the essential nature of General Systems Theory is based on an open systems view of reality. This means that the university is viewed as a part of its environment and as interacting with its environment. It means, further, that the interaction between any of the university's components can be conceptualized within the same theoretical framework and discussed in the same terms as any of its external events or relationships.

For reprints, Dr. Ernest Shapiro, Continuing Education Division, Room 541 University Centre, The University of Manitoba, Winnipeg, Manitoba R3T 2N2.

It is not the intention of this paper to undertake an exhaustive analysis of the university. The chief purpose is to show how General Systems can be an instrument for increasing the level of understanding of the university for adult educators.

It will attempt to demonstrate that the principal constructs of General Systems Theory can be applyed fruitfully to the university as a whole or to any of its subsystems, particularly to the extension subsystem. An understanding of the relationships between extension and university in these terms will enable practitioners in the field to deal more effectively with what may seem at times to be irrational forces and unexplainable decisions. A General Systems approach provides new understanding of a number of forces with which extension personnel have to cope and such knowledge will enable them to meet challenges and perform more effectively both with respect to their communities and to the university of which they are a part.

There is a persistent theme in the literature of adult education which bemoans the lack of acceptance of the adult educator in the higher education community. This does not mean to imply that adult educators do nothing more than complain, but there is sufficient literature of concern about the position of adult education in the university community throughout the literature so that one can readily call this a major theme. This matter is explained by Knowles (1970) when he says that "very few of the adult education enterprises in this company are independent organizations. ... most adult education takes place at settings that were established for purposes other then the education of adults...consequently, the adult education enterprise is usually a part of and subordinate to some larger enterprise" (p. 61).

There have been various reactions to the marginality of adult education. Deppe (1969) proposes that adult educators accept their marginal position in the university and capitalize on it by exploiting those opportunities which exist at the "margins" of the university.

The marginal character of university extension is not peculiarly American. Raybould (cited in Kelly, 1970), in reviewing the beginnings of continuing education at the University of Leeds, describes this well in saying that:

> The extramural staff [prior to 1946] constituted a group apart in the University. They were members of no faculty and no department. They might be personally acquainted with other members of the University, but often were not. They had no rooms in the University. The titles of their posts were not those employed for other academic appointments. Their salary scale did no correspond with any existing for intra-mural staff. No provision existed for them to be promoted to posts of higher education and salary. (p. 362)

Most of the discussion of marginality has been in the nature of expressions of opinion or persuasive efforts to effect change one way or another. A rare exception is the work of Fritsch (1971), who conducted extensive research in France on the backgrounds of adult educators. His work suggests that their "second career" pattern, their missionary posture, and even the occupational patterns of their fathers contribute to their being in a marginal setting.

There is not a large literature based on rigorous research in the adult education sector of the university, and what there is of it scarcely deals effectively with considerations stemming from the field of organizational science. Some attempts at studying university continuing education in organizational terms are made from time to time. They do not, however, go much beyond dealing with some selected organizational factors that influence adult education. There is certainly a need for further research in this area.

The literature of higher education is not much more useful then that of adult education. Not only is the literature of higher education deficient in not according the extension component its proper place, but one is hard pressed to find any theoretical literature of the university. So much of the literature is exhortative, anecdotal, or personalistic. University presidents have reminisced or given opinions about many things. Historians have paid attention to universities, but, by and large, they have concentrated on the development of the history of a particular university rather than in the history of a particular time or set of events. Flexner, who could be considered the first scholar of higher education and who had such great impact on professional education, did little to provide a theory of the university. Important and influential as were his works, there is little evidence that, aside from his devoted admiration of German scholarship, and an impatience with "popular" university activity, Flexner did not write in any detail about the university as an organization.

As late as 1974, Dressel and Mayhew still characterize higher education as a small emerging field of scholarship. They begrudgingly admit that the field seems to consist of "about 800 persons who think of themselves as professors of higher education." Their esteme of the literary products of their colleagues, however, is not too high: "The growing body of literature concerning higher education provides more knowledge of the opinions of writers, however, then knowledge of the phenomenon of higher education." Its taxonomies or classifications are rudimentary and not sequentially ordered.

The spate of writings emanating from the volatile university of the late 1960's, there emerged a concern for the nature of the university in society, the nature of university organization itself, and the character of the university as a part of its community. A number of writers offered a theory of the university based on special premises. Smith (1974) takes a Marxist approach and sees the university as a reflection of a capitalist society's need to produce a new class of educated worker for an increasingly complex technological capitalism. Baldridge (1971) analyzes the university as a political system. This is a useful model, and helps to provide a framework in which student activism can be viewed. But it fails to be generalized enough to apply to many other internal relationships at the university. Other authors view higher education in the light of traditional economic market theory, and still other authors write of large organizations like the university as analogous to an organism.

These are all useful ways of approaching and analyzing as subtle and complex an organization as the university. In the main, however, their approach is useful for dealing with a single set of problems.

An approach that seems to offer a rich enough prospect has been presented by General Systems Theory. Everybody knows something about systems.

We have heard about burglar alarm systems, respiratory systems, or international monetary systems. We know that an airline has a ticket system, a customer complaint system, and a personnel training system. We know that teachers may have a student evaluation system, and that students may develop a system for "beating the system". In each of these examples, we are aware of the existence of a set of forces or structures that are related to one another acting as a totality. And we are aware that when any single par acts, it is in a way that depends on the relationship of that part to the set to which it belongs; and we are also aware that there are rules which govern the activation, and quality of actions of a part.

To systems thinkers, the forgoing is straightforward enough. Some would go much further, however, and maintain that there are not only rules for every system, but that there are propositions which can be applied to all systems. General Systems is that approach to systems that attempts to generate an understanding of all systems by the formulation of propositions with universal character.

The best known ideas coming out of this approach are input, output, and feedback. These terms have now entered into popular language where their use, although not as precise as would be suitable for a more vigorous analysis, illustrates the implicit acceptance of General Systems thinking.

Less popular, but of at least equal importance, is the "open systems" view of reality. In this view, a system exists not simply as a related set of interacting parts, but as an entity that interacts with its environment. In their landmark work, Katz and Kahn (1966) define an organization as an ongoing, open system, in a state of dynamic equilibrium with its environment. It is the elaboration of this definition and some related concepts that has yielded such useful understanding of the nature of systems.

One of the first questions that must be asked is "Where does a system stop and its environment begin?" If a system interacts with its environment, doesn't this interaction make the environment a part of the system? It is not always easy to arrive at an answer. Is a student a member of the environment who enters a system in order to be transformed according to the needs of the environment and then exported there? A student in a barber shop knows that he is not a part of the barber's system, but that he is an artifact imported from the environment. But if the university is presumed to be a disinterested organization, the student as client may not be an appropriate posture.

In order to deal with these and similar questions, the concept of boundaries must be posited and elaborated. To begin with, let us define a boundary as that aspect of a system that is coterminous with another system or with the environment. Inasmuch as we regard human systems as open, that is, as normally subject to exchange of matter and energy with its surroundings, it is reasonable that there should be special structures to deal with this flow. Such structures can be more or less static boundaries like a wall or an overcoat. Or they can be complex physical structures like animal skin or smoke alarms. Some boundary structures develope into very complex systems like national boundaries which are supported by customs and immigration systems.

Universities too have boundary systems. Among the most familiar at the input end are recruitment officers, admissions staff, registrars, cashiers and others. Each of these constitutes a specialized subsystem of the university. Each may be analyzed in terms of its inputs, its transformational internal systems, its outputs, its control systems, and so on. More subtle is the operation of displaced systems, such as the Miller Analogies Test, where a boundary function is performed at some organizational distance.

Output events at the boundary bring their own special systems into play: convocations, professional placement, and the alumni association are all specialized subsystems dealing with output at the boundary. The counselling office in some universities has the task of facilitating the export of students before graduation, this task requiring a high degree of professional skill and a sensitivity to the needs of the university as a system.

Some subsystems become so large and complex that we can lose sight of their status within a system. They may displace some of their operations geographically or functionally.

One such subsystem is university extension. For many universities, extension began as a public relations function and this was clearly visible as a subsystem of the university's dispersed public relations system. For other universities, extension was a "community service" function, a phrase that is wholly consonant with open systems language. There is little difficulty in discussing the community service concept and most persons connected with universities support the notions that some of their unique resources should be made available directly to their community.

The development and growth of extension, however, has created two large problems. Firstly, the sheer size of the extension operation has resulted in it becoming a highly visible complex subsystem with its own subsystems. Some of the extension subsustems, such as their public communications departments, are larger and better known to the community than that of the university. And, secondly, the extension is an educational system. Aromalous as this sounds, it is the very heart of many problems forced by extension units.

Football events in some universities attract more persons than the entire teaching and research effort, but no one ever seriously confuses one with the other. Extension departments, however, are engaged in systematic instruction, and in the course of doing so for a special population, they have generated subsystems that bear an understandable likeness to the university.

One of the major overt structural qualities that differentiates extension from its suprasystem is the attitude of some of its staff to the community. Because such high value may be placed on direct and immediate satisfaction of community needs, part of the extension function acts as if it were a specialized subsystem of the community. With this stance, extension staff procure from the university valued input for their community. This is a much more rewarding status than being part of the boundary of a system from whose central functions you are detached.

Extension, when it mimics the university most effectively, can become a substitute. It can operate as a buffer to protect the university from the incursion of the community into its teaching and credentialling operations. Extension departments, as they have grown, have developed diplomas, certificates, and a variety of documents to meet a perceived public demand. In the tradition of standardization that has been one of the great hallmarks of American education, there has now arisen the Continuing Education Unit, an attempt to standardize the measurement of credit in non-degree education. In this manner, the inevitable growth continues to take familiar forms and extension units continue to develop sub-structures and appearances that provide a useful and satisfactory alternative to participation in traditional university activity.

Desirable as this is, it must lead to the discomfort of ambiguity, to a status often less than that of colleagues in traditional university work, and to a confusion of ends and means. What may be the goal of continuing education for some becomes the means of maintaining a given university-community equilibrium for others. The central administration may express delight that a hundred persons registered for a given program at the moment that the extension staff is suffering anguish at the unexpected low quality of instruction.

For most subsystems of the university, there is little disagreement about desired outputs, system gains, and control criteria. Extension units, by contrast, operating a partially autonomous educational system with many identities to its suprasystem, do not produce the same specific outputs vis-a-vis the university, or the learned community (as opposed to its geographical community). It is easy to adopt all the external features of other systems, but one must bear in mind that the ends of a subsystem are the means of a suprasystem.

Treating the extension system as a university boundary system can lead to more effective decisions if both the senior officials of the university and their extension subsystem are in agreement about this. Then, perhaps, accessibility of the community to extension will not be mistaken for anything else. Standards of admission to the university may be set and maintained only in keeping with academic needs; community needs can be fulfilled through a subsystem operated for this purpose.

Two main recommendations emerge from this study. It is recommended first that extension professionals attempt to contribute to constructing a theory of the university, and, second, that overall attitudes and strategies of extension professionals be modified in the light of their position in the higher education system.

The unique place occupied by extension personnel furnishes them with an advantageous perspective on the nature of the university and its relationships with the community. By occupying boundary positions and performing boundary functions with respect to both the university and the community, extension personnel can contribute to the development of a theory that is realistic and less flawed by partisan self-interest. They can see the university as a social organization that is subject to the same general laws as all other organizational systems. They have both the commitment and detachment that is given to very few others.

Extension deals with inputs, throughputs, and outputs of a large range. This is its fundamental mandate. Consequently, in extension processes one sees the university within a larger context, making it possible to make judgements and build socially useful theory. The boundary position of extension personnel not only gives them some degree of detachment, but also tives them a view of the totality of the university. Although it is a subsystem, extension has a range of functions that are coterminous with those of the university, a characteristic that is not shared by most of the other, more specialized subsystems. This provides theorists from the extension system with the experience needed to give their theory a realistic note.

A second general recommendation pertains to the conduct of the affairs of extension. It is recommended that extension personnel accept a clear vision of their boundary functions, that they attempt to meet the needs of their community and to maintain the integrity of the university. By being clear and secure about the nature of their suprasystems and the boundary position that they occupy, they can more adequately fulfill their maintenance and production functions with considerably less feeling of frustration than in the past.

The boundary position actually provides certain pronounced advantages to any member of the university. Some of the usual restraints about style of behaviour are relaxed, as evidenced in the many unusual curricula in extension, or the unusual credentials, or unusual administrative systems. The cost, for academic staff in extension is their frequent exemption from conventional academic prerequisites such as research facilities and time, or sabbatical leave. In addition, the putting aside of traditional academic restraints may lead to the loss of some academic values, such as the "lowering of standards," and a somewhat larger voice of the community in the traditional academic preserve of the university.

A firm understanding of the ways in which boundaries can function in the General Systems approach to organizations will allow extension to predict with greater accuracy the impact of projected decisions. It would not be a surprise and cause for chagrin for extension planners if the development of new credentials resulted in some subtle moves by concerned departments to make their boundary with extension less permeable. Plans for reaching out further into the community would be reviewed in order to predict the likely impact on boundary permeability.

Above all, extension workers in designing and implementing programs for a community system would, by holding a systems view, examine these plans for their impact on their functions as a maintenance subsystem of the university.

The glowing terms in which university extension is so frequently described may sometimes be at variance with current reality. But they are not at all at odds with very real possibilities. Their boundary position provides extension staff with a unique opportunity to serve their university and their community in ways that must remain impractical dreams for their colleagues in traditional disciplines. Extension workers can enhance the quality of life in their community and make a vital contribution to the maintenance of the thriving university.

A GROUP GROWTH FRAMEWORK FOR COMMUNITY DEVELOPMENT

M. Donald Campbell
Program Development Specialist
Office of Continuing Education and Public Service
University of Illinois at Urbana-Champaign[1]

Introduction

When people think about community development activity, they often picture very tangible results. They may visualize a group of citizens working to attract new industry to the community, develop a park, or establish a medical clinic. Important as these tangible products are, other outcomes can also occur. The citizen group itself, for example, can develop in ways that continue to benefit the community.

This article presents the beginning of a group growth framework for community development. The framework was developed from research on the educational potential of community development activity. The study sought to determine how an adult educator could introduce educational activity into a community development situation to lead to growth of the citizen group. Adult educators working with citizen groups can use this framework to understand the kinds of group growth which can occur.

Methodology

Literature reviewed was not an appropriate source of research hypotheses. This literature [*e.g.*, (1)(2)(4)] did not discuss group growth as including growth on both community problems and group problems. It also did not describe the educational role of the adult educator as comprehensively as that conceived for the study.

A participant-observation methodology was used to generate hypotheses for testing in later studies. Prior to developing hypotheses, frameworks were constructed both for group growth and the adult educator. Some of the Glaser and Strauss (5) "grounded theory" techniques helped construct the group growth framework from both field data and literature.

Qualitative data were collected from 32 potential community development situations in small Wisconsin communities. Five of these situations were examined extensively as primary case studies. Field data collected early in the study indicated they were the most promising sources of data. Five other community development situations yielded some useful data which supplemented data obtained from primary cases. The remaining 22 situations received little consideration. Initial data collected showed they would not contribute substantially to the research.

---

[1] Research described in this paper was supported by the College of Agriculture and Life Sciences, University of Wisconsin-Madison, and by the Cooperative State Research Service-United States Department of Agriculture. For a copy of the entire paper write the author, 103 Illini Hall, 725 South Wright Street, Champaign, Illinois, 61820.

Data were collected using interviews, observations, and document analysis. A total of 118 interviews were conducted with 81 persons. Of these interviews, sixty-three were in person and 55 were by telephone. Length of the interviews varied considerably. Data gathered through observation were used to supplement data gathered through interviews. During the study a total of 14 meetings were observed of six different groups. Document analysis also supplemented the interviews. A total of 125 documents were analyzed, mostly local newspaper articles about the group's activities.

Dimensions of Group Growth

Community development groups work on two types of problems. They try to solve both community problems and problems associated with functioning as a group. Both types of problems are considered different, though possibly related, components of group growth. They are the basis for the two dimensions of the group growth framework. A group can grow by overcoming difficulties associated with the community problem. It can also grow by overcoming difficulties associated with other group problems.

Growth on Community Problems

Growth. John Dewey's ideas on growth are the basis for defining growth in this research. Dewey (3:52) claims that growth involves developing "active capacities to readjust activity to meet new conditions." To develop these capacities, present learning must build on previous learning. Growth is a continuing process which occurs by overcoming increasingly difficult situations. Group growth, then, is operationally defined as continuing to develop capacities to resolve increasingly complex problems.

Solving a community problem does not necessarily mean a group has grown. The group may have depended on a professional community developer, on influential citizens in the community, or on a governmental unit to do most of the work. Although a community problem may have been solved, the group may not have developed its own capacities to progress toward solution of other community problems. These capacities are developed as the group works on the community problem itself. It may use adult educators, influential citizens, and government as resources. The group must struggle with the problem itself, though, if growth is to occur. Group growth, then, is linked to the *process* of problem solving and is not necessarily equated with the *product*.

Regression. A group may not always continue to grow. At times it may stop developing its capacities to handle new situations. It may also fail to utilize previously-developed capacities and revert to a less mature way of functioning. Regression is defined as both failure to continue developing problem solving capacities and degeneration of capacities already developed. Regression, then, is a step backward and the opposite of growth. Regression may be only temporary. A group might momentarily regress in order to "regroup forces."

Plateau. A plateau falls between the two extremes of growth and regression. It is defined as a temporary pause in the growth process. A plateau resembles regression, since problem solving capacities are not developed further. It differs, though, because problem solving capacities already developed do not degenerate. Additional growth may or may not follow a plateau.

This discussion of growth, regression, and plateaus related to work on community problems suggests that group growth may not occur step-by-step in an orderly fashion. Instead a spurt of growth may occur at one time, followed by another period when growth is not as apparent.

Growth on Group Problems

As noted earlier, a group may also grow through the process of overcoming problems associated with the community development group itself. Following preliminary analysis of field data, Thelen's discussion (6) of groups was used to develop this second dimension of group growth. Five of his six concepts of group activity were found to be problems a community development group faces. These problems were membership, integration, control, leadership, and community.

Membership. Increasing the size of a community development group is obviously part of membership growth. Thelen (6:231), though, describes an additional aspect of *membership*. He notes that membership is a person's perception of "the quality of his relationships to the group." Membership, therefore, has both a qualitative and a quantitative aspect.

Both aspects are included as part of group growth related to membership. The extent to which a group's participants demonstrate identification with the group indicates qualitative membership growth. Growth on the quantitative dimension means involving the right number of members at the right time. This quantitative growth may mean recruiting new members, for too few members can prevent the group from effective work on a community problem. Too many members, on the other hand, can also make progress difficult and inhibit qualitative membership growth. The right number of members may vary for a given group over a period of time. A small number might be best at first, with more members added as the work expands.

Integration. The second group problem is *integration* of the "processes of feeling, thinking, and acting" (6:247). Strong feelings may push some groups into extensive activity, but this activity may lack careful thought. Other groups may formulate sound strategy but fail to take action. The extent to which a group develops its capacity to integrate emotion, rational thought, and action indicates group growth on integration.

Control. Thelen claims another group problem is how to *control* the four types of problem solving activity continuously occurring in groups (group conscious, group unconscious, individual conscious, individual unconscious). To establish control, the group must make decisions. Thelen discusses four characteristics of good group decision making:

1. A decision should be made openly, such that the group as a whole knows a decision is being made.

2. A decision should be democratic, that is, based on shared ideas.

3. These ideas should take into account relevant information.

4. The group should develop an appropriate decision making procedure. This procedure should not necessarily be a formal one but should fit the size and composition of the group.

The extent to which a group develops its decision making capacity according to these criteria indicates growth.

Leadership. Developing effective *leadership* is another way a group can grow. Thelen (6:296) does not consider leadership as residing with only one person but defines it as "the set of functions through which the group coordinates the efforts of individuals." Like membership, growth on leadership was operationalized both quantitatively and qualitatively. The ideal situation, according to Thelen, is for the entire group to share the functions of leadership. The extent to which a group moves toward this ideal indicates quantitative leadership growth. Qualitative leadership growth is indicated by the extent to which the group is developing leadership which satisfies two criteria. The first criterion Thelen (6:279) presents is guiding the group in use of an experimental approach. That is, an effective leader realizes "the way to resolve doubts is to take a first pilot step and see what happens." The second criterion is to encourage each member to contribute appropriately to the group. These two aspects of leadership are related. A group which shares leadership among several members likely demonstrates more effective leadership than one which does not.

Community. The final group problem involves relationships with other groups rather than within the group. Thelen claims a community development group should cooperate with other community groups and work toward an interdependent relationship with them. Group growth on *community*, then, is indicated by the extent of cooperation developed with other citizen groups and governmental units.

Relationships Between Dimensions of Group Growth

After the group growth framework was developed, it was used to examine growth in the five primary community development situations. Qualitative data collected for each group were analyzed to show how the group had grown related to the community problem and to the five group problems. The researcher then used these data to rank the groups according to their growth on these problems. For membership and leadership, groups were ranked according to the growth they experienced on both the qualitative and quantitative aspects of these problems.

Interestingly enough, these rankings show that both dimensions of group growth are related. The mean ranking on growth related to group problems is identical to the ranking on growth related to community problems. Each group has precisely the same rank on one dimension of growth as it does on the other.

Growth on one dimension, then, may influence positively growth on the other dimension. A group's growth through overcoming group problems may lead to growth related to the community problem it has identified. Conversely, growth related to work on the community problem may lead to growth related to group problems.

Table 1: Group Rankings on Group Growth[1]

	Case A	Case B	Case C	Case D	Case E
Community Problem Growth	1	3	2	4	5
Group Problem Growth					
Membership					
Qualitative	2	3	1	4	5
Quantitative	1	3	4	2	5
Integration	1	3	2	4	5
Control	1	4	2	3	5
Leadership					
Qualitative	2	3	1	4	5
Quantitative	2	1	3	4	5
Community	1	4	2	3	5
Mean Rankings for All Group Problems	1	3	2	4	5

[1] A ranking of "1" is high and "5" is low.

Implications for Community Development Work

Adult educators working with citizen groups may tend to concentrate on the community problems. This emphasis is understandable, since work on a particular community problem is the group's stated task. The relationship between growth on community problems and growth on group problems, however, indicates the importance of group problems to community development work. Because these two dimensions are related, an adult educator may influence growth on a particular community problem by helping a group deal with the group problems it faces.

Adult educators, however, should not neglect the community problem in favor of group problems. The relationship between the two dimensions of group growth suggests that some growth related to group problems could occur due to the influence of growth on the community problem. Progressing toward solution of the community problem, for example, may generate enthusiasm within the group and lead to qualitative membership growth. Or progress on the community problem may foster development of a more interdependent relationship with the community. Such progress may help the group become more confident of its ability to relate to other community groups. Other community groups may then realize this group is serious about improving the community. Such growth on group problems may then lead to additional growth related to the community problem.

Conclusion

The group growth framework developed during this research is especially relevant to situations where one citizen effort could lead to continuing improvement of the community. An adult educator who hopes a group will continue to work on increasingly difficult community projects should not focus exclusively on the community problem. While working with a group on additional housing or health services, for example, the adult educator should also help the group resolve the group problems it faces. Growth on these group problems may then lead to continuing growth on community problems. Such growth, however, may not follow a simple pattern. Instead spurts of growth may be followed by plateaus or even periods of regression.

REFERENCES

1. Alinsky, Saul D., Rules for Radicals: A Practical Primer for Realistic Radicals. New York: Vintage Books, 1971.

2. Biddle, William W. and Biddle, Loureide J., The Community Development Process: The Rediscovery of Local Initiative. New York: Holt, Rinehart and Winston, Inc., 1965.

3. Dewey, John, Democracy and Education: An Introduction to the Philosophy of Education. New York: The Macmillan Company, 1961.

4. Franklin, Richard, Toward the Style of the Community Change Educator. Washington: National Training Laboratory Institute for Applied Behavioral Science, 1969.

5. Glaser, Barney G. and Strauss, Anselm L., The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine Publishing Company, 1967.

6. Thelen, Herbert A., Dynamics of Groups at Work. Chicago: The University of Chicago Press, 1963.

Adult Performance on Piagetian Tasks: Implications for Education

Dr. Janice Thibodeau
University of Connecticut *

The purposes of this investigation were to examine the effects of age, task content, stage of career development, and cognitive style upon adult cognitive performance.

Review of Literature. Central concepts of Piagetian theory of cognitive development are: self-regulation, equilibration, conservation, construction of reality by the learner, and the emergence of sequential stages of growth. The sequential stages, which are qualitatively different from each other, are the sensori-motor, pre-operational, concrete operational, and formal operational stages.

These stages represent the maximum level of functioning possible for each respective stage and not necessarily the most frequently employed strategy. The majority of adults have been found to operate at the concrete level (Chiapetta, 1976; Kolodig, 1975). This may represent non-attainment of the formal stage or it may represent regression. Adults may also operate at a lower stage due to functional or situational needs.

Piaget (1972) postulates that adults only operate at the formal level in their area of professional specialization. This hypothesis is consistent with developmental task learning theories. Learning needs to be related to the developmental tasks of the individual (Knowles, 1976). Formal operations are most likely to occur on those tasks directly relevant to the developmental tasks of the individual.

There is also a positive correlation between a learner's cognitive style and his overall problem-solving performance. Neimark (1975) found that the adolescent's use of formal operations was related to the field independent mode of perceiving problems. McKinney (1975) found that the reflective mode of selecting and evaluating problems was related to more developmentally mature problem-solving strategies in children.

Sample. This investigation involved 18 female subjects who were randomly selected and evenly divided into three groups: late adolescents (junior year nursing students), young adults (master's level nursing students), and middle-aged adults (retired nurses). Subjects in group 1 ranged

* Requests for reprints should be
addressed to:
University of Connecticut
Box U 59A
Storrs, Connecticut 06268

in age from 20-21 years. Subjects in group 2 ranged in age from 30-36 years and subjects in group 3 ranged in age from 50-62 years of age. Mean ages of the three groups were 20.16, 33.33, and 56.50 years respectively.

Methodology. Each subject was individually administered the Embedded Figures Test to obtain a measure of field independence and the Matching Familiar Figures Test to obtain a measure of reflective-impulsive cognitive style.

Three equivalent formal operations tasks of proportionality (equilibrium in the balance, nursing analogue, personal data), in which the context varied, were also individually administered to each subject to obtain a measure of cognitive performance and consistency across tasks.

The equilibrium in the balance task was a measure of the ability to understand ratio and proportions, a task representative of operating at the formal level. The subject was shown a picture of a balance beam with various size weights and asked four questions regarding the balance of the beam in the neutral position. Scoring was based not only on the ability to produce the correct answer, but also on the reasons for answer choice and the ability to understand the general principles involved.

The nursing analogue task was also a measure of the ability to understand ratio and proportions. The same general concepts which operated in the balance task applied in this situation. The subject was given a written situation and asked questions regarding the calculation of dosage of a medication. As in the balance task scoring was based not only on the correct answer, but also on reasoning ability and the ability to extrapolate principles.

Like the equilibrium in the balance task and the nursing analogue task, the personal data task also tested the ability to understand and apply the principles of ratio and proportionality. The subject was asked to solve a problem that was likely to be familiar in his everyday life, the conversion of miles to kilometers. The situation utilized personal data about the subject such as the make of his car, his street, and his town.

Observations of the problem-solving process were made during the testing sessions. Testing concluded with an open-ended interview to assess awareness of learning changes with age and preferred learning styles and strategies.

Results. The findings of this investigation have indicated a relationship between cognitive performance, developmental tasks, and stage of professional career development in two instances.

Late adolescents used formal operations significantly more than did young adults when solving the equilibrium in the balance task, $Q\ (45) = 2.3$, $p < .05$. On this same task late adolescents used formal operations significantly more than the middle-aged adults, $Q\ (45) = 4$, $p < .01$.

Young adults used formal operations significantly more than the other two groups on the nursing analogue task, $F\ (2.45) = 5.56$, $p < .01$. On the nursing task, young adults used formal operations significantly more than did late adolescents, $Q\ (45) = 4$, $p < .01$ and than did middle-aged adults, $Q\ (45) = 5.66$, $p < .01$.

The findings did not support the hypothesis that middle-aged adults would use formal operations significantly more than the other two age groups on the personal data task, $Q\ (45) = 1$, $p < .05$.

A relationship between field independence and formal operations was indicated by the data using the Fisher's Exact Probability Test, $p < .05$. No relationship was found between formal operations and reflective cognitive style.

Analysis of the posttest interview revealed distinct differences in learning preferences between the three groups of subjects (see table 1).

Discussion. *Equilibrium in the balance task*. The more relevant the task is to the developmental task of the learner, the better performance is likely to be. A theoretical physics problem, such as the balance task, is more relevant to the late adolescent group than to the other two age groups. Undergraduate nursing students are required to take a number of science courses. The problem-solving approach required to solve this problem should be familiar to undergraduates. They are geared to taking tests related to abstract or theoretical concepts, since at this stage in their professional development they must learn the theory prior to practical application.

Flavell (1977) states that adolescent minds have not yet evolved to the point where practical problems are of importance to them. The group of young adults and the group of middle-aged adults are removed from everyday contact with theoretical considerations, such as the balance problem.

Nursing analogue task. This task was most directly relevant to the young adults who were actively employed

Table 1

Summary of the Differences of Group Responses to the Posttest Interview

Response	Group 1	Group 2	Group 3
Task perceived as easiest	Balance (67%)*	Nursing (67%)	Personal Data (50%)
Ability to perceive commonalities among tasks	No (83%)	No (83%)	Yes (50%)
Effect of diagram on ability to solve balance task.	Helpful (83%)	No effect (83%)	Helpful (50%)
Effect of talking out loud, while solving problems	No effect (67%)	No effect (67%)	Helpful (100%)
Experiences perceived to help learning	Independence, active participation, concrete examples.	Demonstration, methods to save time, explicit expectations, principles vs. facts.	Visual presentations, practical information, relaxed atmosphere, working with same level learners, experience valued, planning of own learnings.
Experiences perceived to hinder learning	Demonstration, being given answers, lack of positive feedback, dependence.	Abstract presentations too much structure, no input in planning.	Being rushed, non-relevant information, conscending approach.
Changes in learning with age.	More efficient; better organized, better able to perceive relationships, learning is easier.	Motivation, committment, concentration, depth of preparation and self-expectations are increased.	Takes more time: need more reinforcement, more relaxed: more fun, more self-directed, better use of experience.
Preferred methodologies	Lecture, individual study.	Demonstration, small group discussion, group study.	Visual presentation, "hands on" experience 1:1 student-teacher relationship.

---

* Percentages indicate the percentage of the 6s in each group who gave the indicated response.

in nursing and enrolled in graduate education in nursing. Calculation of dosage and administration of medication is a problem which is encountered daily in nursing practice. The late adolescents had not yet had a course dealing with medications and were not involved in the administration of medicine. This task had no direct relevance to the group of middle-aged retired nurses. All were permanently retired and had no intentions of returning to active employment. Knowles (1976) states that adults are problem-centered and interested in immediacy of application.

Personal data task. Although there was much evidence to predict that middle-aged adults should perform significantly better than the younger two groups on a familiar task, the findings did not support this prediction (Arenburg, 1968; Sinnott, 1975).

It is possible that subjects in the middle-aged group did not see a change to the metric system as occurring within their life spans and therefore the task had no interest for them. Instead of personal data helping the middle-aged adult solve this problem, as the literature indicates, it detracted from the performance of three persons in this group. They became very involved with the details of personal data and never were able to clearly identify the problem.

The explanation that seems most plausible to the investigator is that the middle-aged subjects had an expectation of failure prior to undertaking this task. Four of the six subjects stated in effect before even reading the problem through in its entirety, "Oh, that's math, I can't do math problems".

Cognitive style. It is logical that a relationship was found between formal operations and field independence. Field dependent persons have an inability to perceive discrete parts of a situation and arrive at problem solutions through use of their perceptions. If one cannot accurately delimit the problem and identify the individual elements present, it seems highly unlikely that one could carefully consider all possibilities and test them exhaustively, as one must do when operating at the formal level.

The lack of a relationship between formal operations and reflective style was attributed to use of the Matching Familiar Figures Test, the tool used to measure reflection-impulsivity. By artifically dichotomizing the continuous variables of Matching Familiar Figures Test latency and error by means of a median-split, there is a loss of potentially valuable discriminating information which results in a loss of statistical power (Messer, 1976).

Conclusions and implications. There are learning differences associated with stages of adulthood and stages of career development. The developmental tasks of the individual and his stage of career development must be carefully considered in the planning of educational experiences for the adult.

In order for maximum learning potential to occur the content and approach must have relevance to social and career roles. If learning helps an individual to better carry out his social and career tasks, that learning is positively reinforced.

An additional implication is the necessity for assessing the cognitive level of the learner prior to career planning. For those learners found to be operating at the concrete stage, instructional strategies should be used which confront learners with concrete problems and the opportunity to manipulate materials. For those adults operating at the formal level, active problem-solving strategies need to be constantly reinforced or regression to a lower cognitive level may occur.

Educators must reinforce this active problem-solving process and allow learners to make their own mistakes. An educational process, which grades on final results rather than on the process of solving problems, which rewards only correct answers rather than creative attempts at solutions, and which values what the teacher thinks vs. what the learner thinks, is bound to devalue formal thinking.

References

Arenburg, D. Concept problem-solving in young and old adults. *Journal of Gerontology*, 1968, 23, 279-282.

Chiapetta, E. A review of Piagetian studies relevant to science instruction at the secondary and college level. *Science Education*, 1976, 60, 253-261.

Flavell, J. *Cognitive Development*. Englewood Cliffs, N.J.: Prentice Hall, 1977.

Knowles, M. *The Modern Practice of Adult Education*. N.Y.: Association Press, 1976.

Kolodig, G. The cognitive development of high school and college science students. *J. of College Science Teaching*, 1975, 5, 20-23.

McKinney, J. Problem-solving strategies in reflective and impulsive children. *J. of Educational Psychology*, 1975, 67, 807-820.

Messer, S. Reflection-impulsivity: A review. Psychological Bulletin, 1976, 83, 1026-1052.

Neimark, E. Longitudinal development of formal thought. Genetic Psychology Monographs, 1975, 91, 174-225.

Piaget, J. Intellectual evolution from adolescence to adulthood. Human Development, 1972, 15, 1-12.

Sinnott, J. Everyday thinking and Piagetian operativity in adults. Human Development, 1975, 18, 430-443.

AMERICAN STYLE CONTINUING PROFESSIONAL EDUCATION METHODS FOR CHANGING GERMAN TEACHERS' PERCEPTIONS AND ATTITUDES: A PILOT STUDY OF THEIR MEANINGFULNESS AND ATTRACTIVENESS[1]

Allen Menlo

The University of Michigan

Introduction

Previous cross-cultural investigations conducted and reported by the author (Menlo, 1974, 1976,[a] 1976[b], 1978) indicate that when teachers in industrial settings in England, Germany, and the United States are compared, the German teachers appear to hold the least positive perceptions of their selves as teachers, the least positive attitudes toward their colleagues, the least positive perceptions of their colleagues' attitudes toward them, and their perceptions and attitudes appear to be the least predictively related to each other. Also, they appear to be the least certain about the restrictiveness - permissiveness of their attitudes toward students. From a perspective of group psychological health, they may be considered to possess the least psychological health or happiness. The meaning of this finding takes on added importance when one considers the impact of these interpersonal perceptions and attitudes, as they are experienced by German students, upon the students' personal-social development. Assuming that the impact of this type of perceptual- attitudinal climate upon both the personal and professional development of teachers and the personal-social development of students is more negative than positive, one wonders about the extent to which these perceptions and attitudes of teachers are amenable to change through continuing professional education programs in the area of interpersonal relationships. Further, since the findings of the previous investigations appear to indicate that the United States teachers possess the most psychological health or happiness, one wonders about the extent to which continuing professional education methods invented within the cultural context of the United States can be applicable to programs in the cultural context of Germany.

Thus, prior to proposing even a modest continuing professional education program aimed at "healing" or changing the attitudes and perceptions of a selected sample of German teachers, it seemed wise to subject several of the specific techniques, methods and procedures of a program to the live experience and review of some short-term, small-size groups of German teachers. This study, then, emerged naturally from prior studies and serves as a link between an apparent need for change identified in these prior studies and the development of a proposal for a service and research venture in response to the identified need for change.

Objective of the Study

The major objective of this study was to explore the extent to which specific continuing professional education methods and experiences designed to influence the interpersonal attitudes, skills, and understandings of teachers in one culture (United States) have meaningfulness, attractiveness, and usefulness to teachers in another culture (West Germany). These methods and experiences have been employed for several years in the in-service education of public school teachers in the United States. They can be described as experiential, inquiry-oriented, laboratory-type teaching-learning events in the interpersonal domain.

---

[1] Reprint requests should be sent to Allen Menlo, School of Education, The University of Michigan, Ann Arbor, Michigan 48109

The two questions explored in this study were:

1. How do West German teachers experience inquiry-oriented, laboratory-type, participative teaching-learning events in the interpersonal domain?
2. What interpersonal, situational, instructional, and demographic factors influence how West German teachers experience these events?

Methods of the Study

During the latter part of May and the early part of June, 1978, the author and a German faculty member of the Didactic Center of the Johan Wolfgang Goethe University at Frankfurt conducted experiential learning sessions with five groups of Frankfurt area teachers who indicated their interest in participating in response to a distributed announcement. This is the same geographical area in which the German section of the author's previous research had been conducted. The total sample of this study was 48 and it included differences in age, sex, professional level (junior/assistant teacher and teacher) and teaching level. The five groups varied in size and composition.

"Accidental" sampling (Kerlinger, 1973), such as occurred here is difficult to defend except as one is faced by constraints of reality. It was employed following an extensive mailing of announcements to schools in the Frankfurt area by collaborators in research at Goethe University. Table 1 portrays the size and composition of each group, as well as the characteristics of the total sample.

TABLE 1

DESCRIPTION of SAMPLE

	Group A N = 7	Group B N = 8	Group C N = 6	Group D N = 14	Group E N = 13	Total N = 48
Professional level						
Junior Teacher	1	-	2	12	10	25
Teacher	6	8	4	2	4	23
Sex						
Male	3	3	2	3	2	13
Female	4	5	4	11	11	35
Age						
Under 25	-	-	-	1	5	6
25 - 35	7	7	6	10	5	35
35 - 45	-	1	-	3	3	7

Group A was a university seminar, Group B was comprised of teacher friends who met weekly in each other's residence, Group C's members were interested persons from a secondary school faculty, Group D was a Continuing Education Center seminar, and Group E was composed of interested persons from an elementary school faculty. Group C engaged in three experiential sessions, Group E in two sessions, and others in one. A major characteristic of each session was active participation in an interpersonal event which generated self-other data for reflection and discussion and which was either preceded or concluded by a heuristic device to help conceptualize the experience. Foci for learning were empathic listening, sensitivity to verbal and non-verbal message cues, cooperation, levels of interpersonal support and non-support, and the impact of human values on behavior. Language of interchange varied between English and German and sessions lasted from two to three hours.

At the end of the first or only session of each group, each participant completed a three-section instrument printed in both German and English. The first section requested a description of "....what the learning experience was like for you" on fifteen polar semantic differential items (Osgood, et al, 1957); the second section asked for the participant's understanding of the learning objectives of the session through a response to "What a person might learn from this experience is...." and the third section requested information on age, sex, and professional position. Each group's session(s) was videotaped, using total group and individual zoom shots in order to sensitively record both verbal and non-verbal reactions to the experience.

Analyses of Data and Findings

Analyses of total sample responses to the end-of-session instrument were used to provide answers to the first research question. Analyses of the influence of age, sex, professional level, and learning context (group and setting) upon the semantic differential description of learning experience, and analyses of judges' coded observations of actions and interactions on the documentary video tapes of sessions were used to provide answers to the second research question.

The first research question sought information on how West German teachers experienced the learning events in their group sessions. One answer is contained in Table 2. The bi-polar items are listed in their original order and sequence with the underlined adjective carrying the highest weight (6) and its companion carrying the lowest weight (1). A _t_ ratio and its level of significance is presented for each mean score. The _t_ ratio and _p_ provide an indication of whether the nature of the learning experience for the participants as a group was significantly in one direction or the other on each of the descriptive semantic differential scales. The rationale here is that a mean value of 3.5 on a continuum of 1 to 6 represents zero valence. Consequently, _t_ tests were conducted to test whether or not each item mean differed significantly from 3.5 (theoretical population mean).

TABLE 2
DESCRIPTIONS OF THE LEARNING EXPERIENCE FOR TOTAL SAMPLE

S.D. Item	Mean Score N = 48	t
Clear - Unclear	4.67	6.79^{xxx}
Interesting - Uninteresting	4.77	5.59^{xxx}
Old - New	3.25	-1.04
Difficult to do - Easy to do	4.35	4.88^{xxx}
Stimulating - Boring	4.83	6.58^{xxx}
Enjoyable - Unenjoyable	4.79	6.33^{xxx}
Encouraging - Discouraging	4.17	3.88^{xx}
Superficial - Thoughtful	4.21	3.51^{x}
Helpful - Unhelpful	4.37	3.84^{xx}
Involving - Uninvolving	3.87	1.64
Not useful - Useful	4.67	5.52^{xxx}
Not worthwhile - Worthwhile	4.62	5.31^{xxx}
Impersonal - Personal	4.33	3.98^{xx}
Meaningful - Not meaningful	4.17	3.44^{x}
Important - Unimportant	4.44	4.75^{xxx}

$t = 2.02$ for $p = .05$, 2 tailed test $^{x}p < .001$ $^{xx}p < .0005$ $^{xxx}p < .0000$

It appears, from Table 2, that overall the German teachers experienced the learning events as being (in descending order of significance) more clear, stimulating, enjoyable, interesting, useful, worthwhile, easy to do, important, personal, encouraging, helpful, thoughtful, and meaningful than not. Generally, they did not appear to experience the events as particularly involving or uninvolving, or new or old.

A second answer to the first research question is provided by the analysis of responses which participants gave regarding the objectives of the session which each experienced. A panel of four applied behavioral scientists who regularly plan, design, and lead experiential learning sessions individually read and judged each statement as to whether it was "on-target" or not. Then, statements which were not judged the same by all panel members were discussed until a consensual judgement was reached. Following that step, each on-target response was jointly discussed and sorted into levels of specificity-generality. Table 3 presents the results of this procedure.

TABLE 3
ON-TARGET AND OFF-TARGET STATEMENTS OF LEARNING OBJECTIVES

	Specificity →		to →		Generality	Total N	%
On Target	12	3	4	3	6	28	75.7%
Off Target						9	24.3%

Thirty seven of the 48 participants provided responses. As indicated in Table 3, 28 or 75.77% of the participants responses were judged to be on-target with the largest number (12) being highly specific and the remainder ranging over four other levels of specificity-generality. Nine responses (24.3%), which contained comments and reactions to process and procedures of sessions, were judged to be off-target.

The second research question sought information on what factors influenced the kind of experience West German teachers had in their learning event sessions. One "kind" of experience was defined as positiveness and this was operationalized by calculating a total score for each person on fourteen of the fifteen semantic differential items. The item Easy-Difficult was not included since the valence of each direction was not clear, i.e.,whether experiencing a learning event as easy or difficult could be viewed as consistently either positive or negative. In order to examine the influence of sex, age, professional teaching level, and learning context (group and setting) upon positiveness of learning experience, F tests were conducted for each factor with categories of the factor as the independent variable and mean total positiveness score for each category as the dependent variable. As indicated in Table 4, sex, age, or professional teaching level did not appear to have a significant influence upon overall positiveness of experience.

TABLE 4
INFLUENCE OF SEX, AGE, AND PROFESSIONAL LEVEL ON
POSITIVENESS OF LEARNING EXPERIENCE

Category	N	Mean Total Score (Lo = 1 to Hi = 6)	Std. Dev.	F	P
Sex					
Male	13	4.374	.817	.0004	.98
Female	35	4.367	1.085		
Age					
Under 25	6	4.42	.817	.665	.52
25 - 35	35	4.28	1.074		
35 - 45	7	4.76	.826		
Professional Level					
Junior Teacher	25	4.50	.839	.873	.35
Teacher	23	4.23	1.173		

In addition to the F tests indicated in Table 4, F tests were also conducted to examine the influence of sex, age, and professional level upon each of the fifteen semantic differential items, each item representing a single dimension of positiveness of experience. The only significant F ratio out of forty five tests was the influence of professional level upon the experience of being involved (p. =.03). Junior teachers experienced the learning events as more involving than teachers. The only dimension of experience which appeared to near-differentiate categories of sex, age, and professional level was that indicated by the semantic differential item of clear (teachers experiencing somewhat greater clarity than junior teachers [p =.06]; 25-35 age group experiencing most clarity, 35-45 age group next most clarity, and under 25 age group least clarity [p =.13]; males experiencing somewhat greater clarity than females [p =.08]).

Learning context (group and setting) emerged as the major factor of influence upon positiveness of learning experience. This finding is presented in Table 5.

TABLE 5

INFLUENCE OF LEARNING CONTEXT ON POSITIVENESS OF LEARNING EXPERIENCE

Context	N	Mean Total Score (Lo =1 to Hi =6)	Std. Dev.	
Group A	7	4.98	.506	
Group B	8	2.97	.907	
Group C	6	5.23	.506	F = 9.67 P = .0000
Group D	14	4.40	.680	
Group E	13	4.47	.944	

Further analysis was conducted to determine which groups were significantly different from each other. Using two-way planned contrasts (*t* ratios) with Scheffé allowances, Group B emerged as having a significantly less positive experience ($p < .0001$) than every other group, and Group C as having a significantly more positive experience than Groups D and E ($p < .05$). *F* tests were also conducted to examine the influence of learning context upon each of fourteen dimensions of experience assessed by fourteen semantic differential items. Consistent with the findings in Table 5, Groups A and C scored most positively over most of the dimensions, Groups D and E scored next most positively, and Group B was outstandingly the least positive. A most interesting finding, though, is that Group B members, while having the least positive learning experience, defined the experience as most easy and most clear.

In addition to the foregoing analyses on learning contexts, a Profile Analysis (Harris, 1975), using Hotelling's T-Square with transformation into an *F* value, was conducted. The *F* value was 2.93 with $p = .0002$, indicating nonparallelism of the five Groups' profiles. Significant difference between Groups was again indicated with an *F* value of 9.67 and $p = .0000$. Group B was once more displayed as deviantly less positive than the other four Groups.

It seems important to comment here that each of Group C's participants were secondary school persons who freely self-selected to become members and comprise the group; Group A's participants were members of an ongoing university seminar of which the German faculty member who was the author's collaborator was instructor; the sizeable majority of members in Group D were junior teachers, all members participated through the influence of their supervisor, and prior conflict existed within the group between one member and all other members; Group E was composed of elementary school persons and the junior teachers' presence was influenced by their on-site supervisor; and Group B's membership was composed of new teachers who were strongly supportive of each other's negative view of current schooling, and who met regularly for informal friendships rather than for instructional purposes.

Thus far, the response to the second research question has been comprised of the influence of the demographic factors of sex, age, and professional level and the situational factor of learning context upon positiveness of learning experience. Data on the influence of interpersonal and instructional factors upon the nature of participant experience rested within the contents of the thirteen reels of documentary video tapes of group learning sessions. In order to unlock this source, the same panel of behavioral scientists who judged the participants' statements of session objectives jointly viewed all video tapes of sessions. They were requested to observe for any individual member actions, inter-member actions, or facilitators' instructional interventions which appeared to affect the energy level of members specifically or generally. One tape was initially used for practice at observation and discussion of observations. The observers then viewed six tapes during which they identified and discussed energy-influencing actions and then put these actions into consensually agreed-upon language. They examined all their statements of energy-influencing actions and sorted them into clusters. These clusters were then given labels which captured the essence of each cluster. Following this, the observers viewed the remaining seven tapes using the labels or categories to code observed actions, as well as remaining open to the addition of new categories and the modification of those already developed. This procedure appeared to allow for both the confirmation and modification of already-developed categories and the development of new ones. The final set of categories which emerged from this procedure and their pre-established classifications are presented in Table 6.

TABLE 6

CATEGORIES OF ACTIONS AFFECTING ENERGY LEVEL OF MEMBERS

Member and Inter-Member Actions	Instructional Interventions
Disclosure	Authentic self-sharing
Expressing dilemma	Clarification of meanings
Expression of vital experience	Clear request for participation
Expressing optimism about outcome	Focused gathering of learnings
Expressing sense of direction	Non-defensive vitality
Expressing uncertainty of outcome	Non-intrusive encouragement
Expressing reward from experience	Reflective listening
Giving/receiving feedback	Spatial, positional arranging
Taking a risk	Supportive invitation

A likely observation of the content of Table 6 is that it is not dissimilar from what one might expect to find as being true for groups of United States teachers. In some sense, this observation is supportive of the applicability of American style continuing education methods to the design of inservice programs in the interpersonal domain for West German teachers.

Summary

The findings of this study provide evidence toward the validity of assumption that, generally, West German teachers both understand the objectives of and positively experience inquiry-oriented, laboratory-type, participative teaching-learning events in the interpersonal domain. There is evidence that sex, age, and professional level do not influence the extent of positiveness of experience, but that the situational context of learning does. When in participative learning groups, there are observable and identifiable actions of these teacher-members and produceable interventions of instructional facilitators which influence the extent of member energy for learning. Finally, the foregoing evidence provides supportive rationale toward the development and execution of an apparently needed continuing professional education program in the interpersonal domain for West German teachers.

References

Harris, R. J. A Primer of Multivariate Statistics, Academic Press, 1975.

Kerlinger, F.N. Foundations of Behavioral Research, 2nd Ed.,Holt, Rinehart, Winston 1973.

Menlo, A. "A Comparison of School-Related Perceptions, Attitudes, and Values of Teachers in Three Countries." Paper presented at Annual Meeting of the Amer. Educ. Research Assn., Toronto, Canada, 3/30/78; (others 1974, 1976^a, 1976^b available from author.

Osgood, C., Suci, G., and Tannenbaum,P. The Measurement of Meaning, Un. of Illinois Press, 1957

AN ANALYSIS OF INDICES OF EFFECTIVENESS OF STATE DEPARTMENT OF EDUCATION ADMINISTRATIVE ORGANIZATION FOR ADULT EDUCATION SERVICES

George Y. Travis
Academic Faculty for Vocational-Technical Education
The Ohio State University

Purpose

The Tenth Amendment to the Constitution states that powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states.[1] One such power is the power to regulate education. The regulation of education is carried out through state departments of education.

A review of table organization charts shows that state departments of education are organized in diverse administrative patterns. An example of this diversity is found in the placement of adult education within the administrative hierarchy. The varieties of structure for adult education in state departments of education raise questions concerning the organizational structure and its relationship to program operation in local education agencies. The following research questions were answered in this study.

> Research Question 1 - Do statistically significant relationships exist between the placement of adult education within state departments of education, measured in levels separating adult education from the chief state school officer, and the stated dependent variables?
>
> Research Question 2 - Do statistically significant relationships exist between the unification of ABE, GED, and HSC programs into 1, 2, or 3 administrative units, and the stated dependent variables?
>
> Research Question 3 - Do statistically significant relationships exist between the placement of adult education within state departments of education, measured in levels separating adult education from the chief state school officer, and the degree to which selected state departments of education perform key administrative and regulatory functions, consultant and advisory functions, and communication and interpretation functions?
>
> Research Question 4 - Do statistically significant relationships exist between the unification of ABE, GED, and HSC programs into 1, 2, or 3 administrative units, and the degree to which selected state departments of education perform key administrative and regulatory functions, consultant and advisory functions, and communication and interpretation functions?

---

160 Ramseyer Hall
29 West Woodruff Avenue
Columbus, Ohio 43210

Literature

Key literature includes U.S. Office of Education publications in 1927, 1940, and 1959. Equally important was a 1977 report by the National Advisory Council on Adult Education.

USOE Bulletin #18, Public Education of Adults in the Years 1924-26, summarized the status of adult education in state departments of education, city school systems, and colleges and universities.[2] At that time twenty-four states were providing supervision for adult education in state departments of education, with thirteen states having full-time supervisors.

The 1940 report, Supervision of Education for Out of School Youth and Adults as a Function of State Departments of Education, deals with the origin, development, personnel employed, and major functions and procedures used by state departments of education.[3] A major section of the report concerns development, organization and procedures in state supervision of adult education, with summary reports on ten states offering "Comprehensive Programs of Adult Education." These states are California, Connecticut, Delaware, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Utah and Virginia.

In 1959 USOE published Miscellaneous #31, Adult Education Services of State Departments of Education.[4] Existing administrative patterns were discussed, and state representatives recommended ideal administrative arrangements. Three major service areas were defined: administrative and regulatory functions, consultant and advisory functions, and communications and interpretation functions. These service areas were the basis for the survey instrument used in the study.

The National Advisory Council on Adult Education in 1976 gathered program data from the states.[5] In a 1977 summary report, a major section was "Organizational Structure of State Departments of Education; Placement of Adult Education Units Within State Department Structure." The NACAE report included data which constituted dependent variables used in the study.

Methodology

Program areas selected for study were Adult Basic Education (ABE), High School Continuation (HSC), and General Education Development (GED) testing programs. These programs provide alternatives for adults seeking high school diplomas or their equivalent.

Table of organization charts were obtained for each of the states for 1976. The highest identified adult education unit was measured for the levels separating adult education from the chief state school officer. A classification scheme was developed by a three-person panel of experts and verified by each state department of education. The results, shown in Table 1, constituted an independent variable for the study.

Table 1

Administrative Levels Separating Adult Education From the Chief State School Officer

Administrative Levels Removed		Number of States
Report directly to CSSO		2
1 level removed		13
2 levels removed		20
3 levels removed		11
4 levels removed		4
	Total	50

When requesting verification for levels removed, each state department was asked whether ABE, HSC and GED programs were organized into one, two or three administrative units. The results, shown in Table 2, constituted a second independent variable.

Table 2

Administrative Unification of ABE, HSC and GED in State Departments of Education

Number of Units		Number of States
1 administrative unit		42
2 administrative units		7
3 administrative units		1
	Total	50

Dependent variables selected from the 1977 report by the National Advisory Council on Adult Education were:

1) The percent of each state's target population over age 16 with less than a high school diploma, which is participating in ABE, HSC and GED programs. Data in the NACAE report were stated in whole numbers which identified the target population for each state and the program enrollment for ABE, HSC and GED programs. A conversion to percentages was necessary for comparison of data among the states.

2) The amount of state funds allocated for each student in the target population.

3) The total state and local dollars allocated for each student in the target population.

4) The cost per 100 hours of instruction for adult education.

5) The state appropriation for adult education compared with the state appropriation for general education.

A one-way analysis of variance was used for each of the dependent variables to determine the significance of relationships with the independent variables at the $\leq .05$ level of significance. Scheffe post hoc contrast tests were used to identify the point at which any differences occurred.

In a second part of the study, a fifteen-item survey instrument was formulated from two literature sources. Hendrickson listed five major functions which could be performed by state education agencies.[6] The USOE 1959 report listed three major service areas. The two were combined into an instrument asking local adult education directors their perception of the degree to which the state departments of education performed the functions.

Instrument validity was established by a three-person panel of experts. Reliability was established through field testing on eighteen Ohio local administrators who perform functions similar to those chosen to be a part of the study.

Selected for the study were Indiana, Illinois, Michigan, Minnesota, Ohio and Wisconsin. These six states comprise USOE Region V and are representative of the fifty states in organizational structure. Each state's director of adult education was asked to identify those local districts which offer ABE, HSC and GED programs. Survey instruments were sent, as shown in Table 3.

Table 3

Organizational Structure and the Number of Local Education Agencies Offering ABE, HSC and GED Programs for States in USOE Region V

State	Levels Removed From Chief State School Officer	Number of Administrative Units	Number of Local Education Agencies Offering ABE, HSC & GED
Indiana	1	1	36
Illinois	1	1	39
Michigan	1	1	38
Minnesota	3	2	7
Ohio	4	3	18
Wisconsin	2	1	16
		Total	154

Instruments were returned from 138 districts, an 89.6% return. For purposes of analysis, survey items were classified as administrative and regulatory functions, consultant and advisory functions, and communication and interpretation functions. For the independent variable, Levels Removed, T scores were used to compare states one level removed from the chief state school officer, and all states more than one level removed. For the independent variable, Unification, T scores were used to compare all states in one administrative unit with those states organized in two or more administrative units.

Results

For the independent variable, Levels Removed, no statistically significant relationships were discovered for dependent variables 1, 3, 4 and 5 at the $\leq .05$ level of significance. Results for dependent variable 2 are shown in Tables 4 and 5.

Table 4

Mean Dollars Appropriated Per Student Categorized by Levels Separating Adult Education from the Chief State School Officer

Administrative Levels Removed	Number of States Reporting	Mean Dollars Appropriated Per Student
Reported directly to CSSO	2	$3.35
1 level removed	13	.27
2 levels removed	20	.82
3 levels removed	11	.25
4 levels removed	4	.23
Total	50	

Table 5

ANOVA for Comparing Dollars Appropriated Per Student with Administrative Levels Removed

	df	ss	MS	F	P
Equality of Cell Means	4	19.242	4.823	4.633	0.003
Error	45	46.843	1.041		

The probability 0.003 necessitated a Scheffee post hoc test of contrast, which showed that significant differences exist between those states which report directly to the chief state school officer and all states separated by one or more administrative levels. The two states reporting directly to the chief state school officer are Arkansas and Utah. Arkansas appropriated $0.11 per student in the target population, while Utah appropriated $6.59 per student. These two figures have a mean of $3.35. Because there are only two states in this category, and because of the extreme disparity between the dollars appropriated by the two states, the findings should be viewed with caution.

For the independent variable, Unification, no statistically significant relationships were discovered at the $\leq .05$ level of significance.

The survey instrument asked local education agency directors of ABE, HSC and GED programs to indicate the degree to which they felt their state department of education provided the following services, on a 5 (high) to 1 (low) scale:

1) Develop and propose methods of financing adult education.
2) Interpret laws governing adult education.
3) Gather and disseminate useful adult education program and statistical data.
4) Assist and encourage the development of written policies pertaining to local and state responsibilities for adult education.
5) Provide encouragement and assistance to schools wishing to initiate adult education programs.
6) Provide encouragement and assistance to schools wishing to improve adult education programs.
7) Coordinate the delivery of adult education services on the local level.
8) Assist local schools with problems of adult education curriculum, teaching methods and organization.
9) Publish adult education resource materials for teachers, directors and superintendents.
10) Cooperate in planning with Adult Education councils, associations and other groups interested or engaged in adult education.
11) Facilitate and conduct in-service training of teachers and staff in adult education.
12) Develop a statewide awareness and visibility for adult education.
13) Provide state level accountability for adult education expenditures.
14) Provide recruitment and promotional materials for adult education.
15) Maintain a clearinghouse of ideas, materials and resources for adult education.

For purposes of analysis, items 1, 4, 5, 6, 8, 9 and 10 were classified as consultant and advisory functions. Items 2, 7, 12, 14 and 15 were classified as communication and interpretation functions. Items 3, 11 and 13 were classified as administrative and regulatory functions. Using the three functional areas, no statistically significant relationships with the independent variable, Levels Removed, or the independent variable, Unification, were found at the $\leq .05$ level of significance.

Discussion

The review of state department of education table of organization charts indicates diverse administrative patterns for adult education services, both in vertical placement of services and unification of the services. This diversity did not affect the identified dependent variables to a statistically significant degree. The existing diversity may have other programmatic effects on the local education agency, or state education agency levels. Future research could be directed toward these areas.

The items on the survey instrument did not relate to a statistically significant degree to the independent variables. Responses from local education agencies did show differences between the perception of services provided by state level ABE, HSC and GED programs. The services provided by state agency ABE, HSC and GED programs is an area for further study. The review of survey instruments returned from the local education agencies in the six states suggests that states with the more diverse administrative patterns on the state level are reflected in similar diverse administrative patterns in the local education agencies.

Table 6

Local Education Agency Organizational Patterns

State	Levels Removed	Unification	Local ABE/HSC/GED 1 Administrator	Local ABE/HSC/GED 3 Administrators
Indiana	1	1	63.6%	6.1%
Illinois	1	1	65.7%	-0-
Michigan	1	1	73.5%	11.7%
Minnesota	3	2	85.7%	14.3%
Wisconsin	2	1	46.6%	6.8%
Ohio	4	3	55.5%	27.8%

Ohio, with the most diverse organization in the state departments of education, shows the highest percentage of local programs with three local administrators. The most marked contrasts occur between Ohio and four other states: Indiana, Illinois, Michigan and Wisconsin. The area of comparable organization of state and local education agencies is an additional potential area of further study.

****

Footnotes

[1] Constitution of the United States--Tenth Amendment.

[2] Public Education of Adults in the Years 1924-26, Bulletin No. 18, 1927 (Department of the Interior, Bureau of Education) p. 7.

[3] Supervision of Education for Out of School Youth and Adults as a Function of State Departments of Education, Bulletin No. 6, 1940 (U.S. Office of Education) p. 3.

[4] Adult Education Services of State Departments of Education, Miscellaneous No. 31 (U.S. Department of Health, Education and Welfare) p. 9.

[5] Adult Education Futures and Amendments--Survey of State Support (National Advisory Council on Adult Education, 1977) p. 13.

[6] Hendrickson, Andrew. Improving Adult Education in Ohio's Public Schools (Division of Adult Education, Bureau of Education Research, The Ohio State University, Autumn, 1958) p. 26.

Assignment Completion as a Predictor of Attrition and Achievement in Correspondence Courses

Angelina T. Wong & Stephen C.P. Wong
University of Saskatchewan

Correspondence students, like their counterparts in other adult education programs (5, 6, 9, 11), have been reported to show a poor completion record. For example, Childs (2) has reported a dropout rate of 40% and Anderson and Tippy (1) have reported a 60% dropout rate. A majority of studies investigating the causes of attrition in correspondence programs have been surveys which correlated non-completion with various social and psychological variables. It has been reported that students who are younger, who are highly motivated, and who have more previous educational experience tend to have a better completion record (3, 4, 8, 10). Some of the reasons hypothesized to account for low completion rates are loss of interest, the lack of discipline in assigning time for regular study, and discouragement resulting from slow feedback from instructors.

It appeared to us that these reasons, useful as they are in attempting to explain the students' failure to complete the course, do not really suggest remedies that an educational agency could undertake to improve the completion rate. Since the return of marked assignments is the only feedback a correspondence student can get about his progress, it would be useful to find out whether assignment completion is related to the student's completion of and achievement in the course.

To our knowledge, only one study by Pfeiffer and Sabers (7) has attempted to investigate the relationship of assignment completion to course completion. Their data suggested that once students began to hand in their first assignments, they had a relatively good chance of completing the course. The authors, however, did not report the number of assignments submitted by those who completed the course and those who did not complete the course. It was therefore impossible to tell from their data whether there is a quantitative relationship between assignment completion and course completion.

Purpose

In our study, we attempted to determine if the number of assignments completed by students taking a correspondence course is related to whether or not they complete the course and their final grades. The completion of a correspondence course was defined as the student writing the final examination. Our approach was based on the assumption that modifications made in the content and scheduling of assignments is the only practical means open to an institution to assist correspondence students in overcoming some of the difficulties which may prevent them from completing the course.

Requests for reprints should be sent to Dr. A. T. Wong, Extension Division, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N OWO.

Method

A university correspondence course in fundamental accounting was chosen for our investigation. This was one of the two prerequisite courses in a certificate program offered to bank employees across Canada and some of the Caribbean islands. In the past, this course had consistently shown a low completion rate. Students enrolled in this course are given six assignments to complete in sequence between October and April. Each assignment is graded by the instructor but the grade does not count towards the final grade. To get course credit, the student must pass the final examination which is given in May at a number of centres.

Two groups of students from two consecutive academic years were included in the study. The two groups (A and B) totalled 220 and 144 students respectively. The students shared a similar occupational background in that they were all bank employees. The content and structure of the course as well as the instructor who graded their assignments were the same for both years.

For each student in the study, the following information was obtained from the university records:
(1) the number of assignments the students completed (from 0 to 6);
(2) whether or not the student wrote the final examination; and
(3) the student's final grade.

It was hypothesized that the students who completed more assignments would (a) more likely complete the course and (b) more likely obtain a high final grade.

Results

TABLE 1

THE NUMBER OF ASSIGNMENTS COMPLETED BY STUDENTS WHO WROTE AND BY THOSE WHO DID NOT WRITE THE FINAL EXAMINATION AND THEIR MEAN FINAL GRADE

NUMBER OF ASSIGNMENTS COMPLETED	NUMBER OF STUDENTS GROUP A		MEAN FINAL GRADE * GROUP A %	NUMBER OF STUDENTS GROUP B		MEAN FINAL GRADE * GROUP B %
	WROTE FINAL	DID NOT WRITE FINAL		WROTE FINAL	DID NOT WRITE FINAL	
0	11	83	62.7	17	29	65.4
1	9	29	61.2	10	23	64.5
2	6	7	70.2	6	10	68.7
3	17	11	71.1	8	6	63.7
4	7	2	64.9	11	0	70.7
5	8	1	76.1	6	0	72.2
6	28	1	71.9	17	1	80.8
TOTAL	86	134		75	69	

* A FINAL GRADE IS ONLY GIVEN TO THOSE WHO WROTE THE FINAL EXAMINATION

Table 1 summarizes the number of students who completed zero to six assignments, whether or not they wrote the final examination, and their final grades. In both groups A and B, a majority (88% and 63% respectively) of those who did not submit any assignments did not complete the course. As students completed more assignments, their probability of completing the course increased. In group A, 91% of those who completed four or more assignments completed the course; in group B, it was 97%. However, it should be noted that 5% and 11% of the students in groups A and B respectively did not submit any assignments and yet completed the course. A chi-square test revealed that students who submitted more than three assignments were significantly more likely to comlete the course (Tables 2 and 3). The results are highly significant for both group A (X^2 = 80.1, df=1; $p<.001$) and group B (X^2= 32.2, df=1; $p<.001$).

TABLE 2

THE NUMBER OF ASSIGNMENTS COMPLETED BY STUDENTS IN GROUP A AND WHETHER OR NOT THEY WROTE THE FINAL

	NUMBER OF ASSIGNMENTS COMPLETED 0 - 2	3 - 6
WROTE FINAL	25	60
DID NOT WRITE FINAL	119	15

TABLE 3

THE NUMBER OF ASSIGNMENTS COMPLETED BY STUDENTS IN GROUP B AND WHETHER OR NOT THEY WROTE THE FINAL

	NUMBER OF ASSIGNMENTS COMPLETED 0 - 2	3 - 6
WROTE FINAL	33	62
DID NOT WRITE FINAL	42	7

Significant positive correlations were also obtained between the number of assignments the students completed and their final grades for both group A ($r = 0.74$, $p<.05$) and group B ($r = 0.83$, $p<.025$). The more assignments a student completed, the higher his final grade tended to be (Figure 1).

THE NUMBER OF ASSIGNMENTS COMPLETED BY STUDENTS
AND THEIR MEAN FINAL GRADES

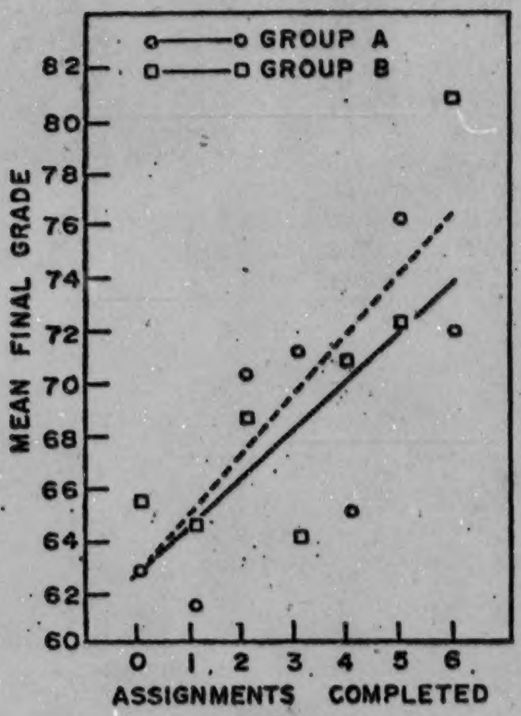


FIGURE I

Discussion

The results obtained confirmed our hypothesis that students who complete more assignments are more likely to complete the course and are also more likely to obtain a high final grade.

The significant positive correlation between the number of assignments completed and the students' mean final grades indicates that the practice students received from doing their assignments was probably useful in helping them master the course content——fundamental accounting. One may further hypothesize that the relationship of course completion to assignment completion may be restricted to courses that teach specific skills such as accounting. However, a preliminary study of another correspondence course, business management, showed that similar results could be obtained for a course that teaches more global skills.

Our results showed that a student has a significantly better chance of completing the course even if they did only half of the assignments. One explanation could be that many students, after completing a few assignments, develop a sense of involvement in the course and this may motivate them to complete the course. Successful completion of the first few assignments may also give them confidence to tackle the rest of the course.

Conclusions and Implications

Unlike institution-based students, correspondence students lack the opportunity for personal interaction with instructors and fellow students. Assignments are the only link between the student and the institution. Our results suggest that modifications to the content and scheduling of assignments could be a practical means of improving the rate of course completion. The first few assignments should be designed so as not to arouse the sutdent's anxiety towards the course. Instead of a few lengthy assignments given out at the beginning of the course, a greater number of short assignments could be mailed to the student at regular intervals. The first few assignments should be made relatively easy for the average student to handle. The submitted assignment should be graded and returned as soon as possible.

Given the availability of financial and other resources, correspondence program planners should explore ways of increasing the student's sense of involvement in the course, One increasingly popular method is to utilize long-distance telephone calls between students and instructors, either in the form of conference calls or individual calls. In one correspondence psychology course at the University of Saskatchewan, small groups of students from a cluster of rural towns met once every three weeks to place a group telephone call to their instructor. A majority of these students stated in a survey that the telephone conversations helped to motivate them to remain in the course.

References

1. Anderson, H. T.; Tippy, P. H., "An Exploratory Study of Correspondence Courses," unpublished manuscript, University of Illinois, Champaign-Urbana, 1971. (ERIC Document Reproduction Service No. ED 013 371)

2. Childs, G. B. "What Research Has Taught Us," address given at a Correspondence Study Conference, University of Nebraska, 1955.

3. Donehower, G., "Variables Associated with Correspondence Study Enrollments at the University of Nevada, 1963-1965," unpublished M. A. thesis, University of Nevada, 1968.

4. Hughes, C., "The Influence of Some Selected Factors upon Completion of Correspondence Study Courses," unpublished doctoral dissertation, University of Florida, 1965.

5. Lam, Y. L.; Wong, A., "Attendance Regularity of Adult Learners: An Examination of Content and Structural Factors," Adult Education, 24: 130-142, 1974.

6. Mann, W. E., "Adult Dropouts," Continuous Learning, 5: 55-65, 1966.

7. Pfeiffer, J. W.; Sabers, D., "Attrition and Achievement in Correspondence Study," National Home Study Council, Washington D. C., 1970. (ERIC Document Reproduction Service No. FD 036 707)

8. Rossi, P. H.; Johnstone, J. W., "Social Aspects of Correspondence Education," National Opinion Research Council, Chicago, Illinois, 1965.

9. Sainty, G. E., "Predicting Dropouts in Adult Education," Adult Education Journal, 21: 223-230, 1971.

10. Spencer O., "Factors Associated with Persons Who Complete Correspondence Courses," Home Study Review, Winter, 5: 10-24, 1964-1965.

11. Verner, C.; Neylan, M. S., "Patterns of Attendance in Adult Night School Courses," Canadian Education and Research Digest, 6: 230-240, 1966.

326

CAN WE IMPROVE RESEARCH
ON COMPETENCIES REQUIRED OF ADULT INSTRUCTORS?

by

John P. Wilson
Associate Professor, Adult Education
Iowa State University[1]

Purpose

The purpose of this paper is to present a theoretical framework that could serve as a base for developing research on instructor competencies. A proposed set of competencies deduced from this framework will be presented along with a rationale for selecting this framework.

Weaknesses in Competency Study

A literature review of competencies for an earlier study surfaced critical conceptual weaknesses in this area (Wilson, 1978). Space limitations do not permit a presentation of this review. The reader may wish to examine other sources to validate the criticisms identified (Wilson, 1978; McClellen, 1975; Mocker, 1974; Zinn, 1974; 1975; Halfin, 1977; Chamberlain, 1961).

The most critical and persistent weakness is the lack of any recognizable and consistent theory base. The growing numbers of lists of competencies is a symptom of a missing theory base. The range and mixture within lists of very specific behavioral acts alongside extremely general philosophical abstractions is another symptom. Resulting competency listings tend to be directed towards being a good adult educator in a generic sense rather than focussing on the act of teaching. The lack of specifiable focus that could be afforded by a theory base makes it impossible to delineate qualities required in the context of instruction, and further, to test whether they are critical and why.

Finally, an apparent assumption underlying competency research is that the instructor is totally responsible for the instructional process. This conflicts with theories of instruction that recognize learning and group dynamics. Many Adult Educators believe the instructional process is a joint endeavor; a transaction of learners and instructors. Further, learning is a process which is realized by an individual and, in general, most effectively brought about through experiencing. The interpersonal dimensions of the learning process can have either facilitating or blocking effects. Each instructional act is a unique transaction between learner and instructor therefore the focus of responsibility for instruction lies within the act itself rather than with one or the other persons.

---

[1] Address for reprints: John P. Wilson, I.S.U., B-5 Curtiss Hall,
Ames, IA 50011.

Without consideration of these criticisms, research findings on competencies required for effective instruction with adults are at best tenuous. The basic framework proposed here is seen to build upon earlier findings by adding heretofore ignored dimensions to competencies related to the above critisims.

Theoretical Framework

The primary interest here is with competencies that directly relate to instruction. The proposed theoretical framework, "The Teacher Role Model" (Boyd, 1969), is comprised of directional constructs that permit working from teacher role descriptions to identification of competencies required to fulfill the role. Figure 1 is an interpretive diagram of the model.

Instrumental Dimension

The model is two dimensional. The first is labeled the instrumental dimension wherein four role categories are identified. They are explained as follows:

The instructor acts as a content resource person by answering subject matter questions, lecturing, directing learners to sources of information, explaining subject matter and writing materials for learners. Thus, the instructor must have a mastery of one of more areas of study, and additionally, must be able to adapt various techniques of instruction to fulfill these actions.

As a guide the instructor will act to synthesize subject matter relationships with the learner and further, to seek evidence whether the learner is experiencing difficulties. This evidence could be used to diagnose learning difficulties and reach methodological decisions related to enhancing the learning process. In both types of action, the instructor is acting as a guide. It should be noted, however, that not all learning difficulties directly relate to cognition or information processing. Hence, requirements in fulfilling this role are a thoroughly developed and operationalized theory of how people learn that is integrated with physical, social and psychological development theories.

Much of the work of an instructor occurs within a programmer role. These actions take place outside the teaching-learning session(s) and involves such things as setting subject matter boundaries, organizing and arranging learning experiences and providing appropriate facilities. It is possible that the instructor may plan subject matter boundaries such that students and instructor together arrive at very specific boundaries. Whether a joint venture of students and instructor, or instructor alone, many requirements enter into the programmer role category. The instructor must have a mastery of the subject matter and alternative organizing/sequencing means. He/she must be able to diagnose learner needs and relate these to subject matter and its organization. Further, the programmer must be familiar with a wide variety of teaching methods, techniques and devices and have some means for selecting which to use and why.

Once an individual becomes an instructor, the person also becomes an institutional representative. Thus, the instructor acts to identify and enforce rules and follow policies of the institution. The instructor must be aware of the

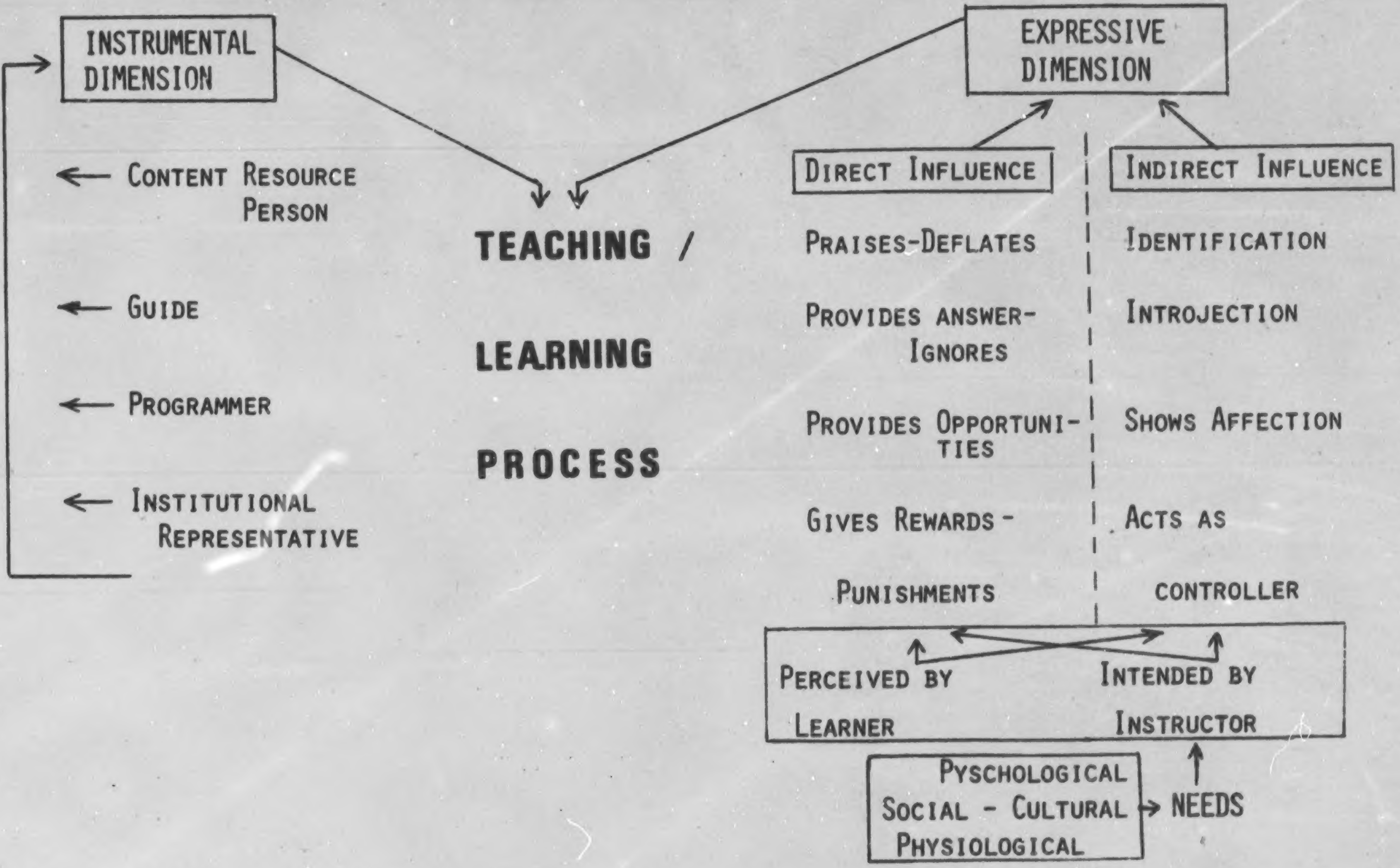

INSTRUMENTAL DIMENSION
EXPRESSIVE DIMENSION
CONTENT RESOURCE PERSON
GUIDE
PROGRAMMER
INSTITUTIONAL REPRESENTATIVE
TEACHING / LEARNING PROCESS
DIRECT INFLUENCE
INDIRECT INFLUENCE
PRAISES-DEFLATES
PROVIDES ANSWER-IGNORES
PROVIDES OPPORTUNITIES
GIVES REWARDS - PUNISHMENTS
IDENTIFICATION
INTROJECTION
SHOWS AFFECTION
ACTS AS CONTROLLER
PERCEIVED BY LEARNER
INTENDED BY INSTRUCTOR
PYSCHOLOGICAL
SOCIAL - CULTURAL
PHYSIOLOGICAL
NEEDS

Figure 1: THE TEACHER ROLE MODEL

scope and goals of adult education within the institution of which he/she is a part. He/she must act according to the teaching/learning aspects of this role by helping learners and other professionals within the institution to clarify their perceptions of the scope and goals of adult education.

Expressive Dimension

The second dimension of this model is labeled the expressive dimension. The attributes of this dimension are ones that are consistently ignored in the literature and research regarding competencies of an instructor.

Within the expressive dimension there are two divisions of influence: direct and indirect. Direct influences include behaviors such as praising-deflating, providing answers-ignoring (inaccurately answers) questions, etc. Thus, while an instructor provides an answer, he/she may be providing reassurance, support or recognition. While ignoring a question the influence may be discouragement, or lack of assurance.

Indirect influences include psychological phenomena such as ego identity formation, coping functions, etc. These phenomena are subliminal; they take place beyond conscious awareness. Thus, as an instructor provides an answer to a question, the student may begin taking on more positive views of industry or identity. In ignoring questions the instructor may inadvertently stimulate less positive views on the part of learners regarding their self esteem.

An unavoidable dynamic aspect of teaching and learning is depicted in this dimension of the model; that is, how an act or behavior is perceived is the truly important influential condition. For example, an instructor may intend to influence a learner positively (encourage, support, etc.). The learner, however, may read a long list of criticisms provided by the instructor regarding the learner's work as negative; lacking in support and encouragement. Thus, all attributes of humanism that enter into the process of perception are a significantly influential part of the teaching-learning process. They are comprised of certain physiological, psychological, and social-cultural attributes of people, and though they differ among individuals, they in turn influence and are influenced by a person's perceptions. Thus, an instructor cannot only be aware of these phenomena; but also must know how they relate to the teaching-learning processes and must be able to develop means whereby feedback allows for clarifying intended versus non-intended influences.

Competencies

The previous section presented a framework that theoretically explains the actions of an instructor within the context of teaching and learning settings. The question is now, how does this framework help look at competencies?

Following is a proposed set of competencies. These competencies were derived from the framework presented in the previous section. The question, "What competencies would be required of an instructor in order to carry out actions explained in the framework?" guided the formulation of the competency statements.

Two points need to be considered as these statements are examined. First, others have argued about the vagueness and ambiguity rampant in educational language (Tyler, 1950). Following this, taxonomies consisting of intricate categories of human behavior were developed to address the argument (Krathwohl, et. al. 1956; Bloom, 1956). It is held here that there can be no universal definition of any given concept. Ambiguity in terminology can only be rid of by examining the meanings of concepts within the structure of the system in which they are used. Thus, the competency statements below can only have definable parameters when examined within the context of the framework from which they were derived.

The second point is that each competency statement begins with the term "Command." The reason is that competence means a state of having command. Almost in the same sense that a captain has command of a ship, a competent teacher has command of the process of teaching. Commmand means that a teacher has their attitudes, knowledge, skills and adaptability under control and can act as an effective instructor.

Content Resource Person

1. Command of the subject matter being taught.
2. Command of methods, techniques, devices and resources that are useable in carrying out various forms of inquiry.

Guide

1. Command of human learning processes and physical, psychological, social-cultural forces that facilitate and block learning.
2. Command of organizing procedures of both content and instructional processes, and relating these to human learning experiences within ongoing teaching-learning transactions.

Programmer

1. Command of leadership functions and procedures and how these pertain to the design of curriculum and instruction.
2. Command of program development processes and his/her role in these processes as a teacher and course development specialist.

Institutional Representative

1. Command of rules, regulations, policies and procedures within the institution of which he/she is a member as well as how these can be changed when needed.

Expressive Competencies

1. Command of interpersonal communication processes.
2. Command of human, life span developmental phases including physical, psychological and social-cultural aspects.
3. Command in separating ideas from feelings, ideas from other ideas and different feelings from each other.
4. Command in letting minds roam freely, in speculating, analyzing, creating without restrictions from within his/her self.
5. Command in analyzing aspects of different experiences, anticipating outcomes and entertaining alternative choices.
6. Command in focusing attention.
7. Command in apprehending other peoples' often unexpressed feelings and ideas.

8. Command in delaying "either or" decisions and tension due to non-commitment, complexity or lack of clarity.
9. Command in replaying and recapturing experiences, feelings, attitudes and ideas of the past.
10. Command in modifying impulse derived aims and objectives.
11. Command in controlling his/her impulses and monitoring for timely expression.
12. Command over personal strengths, constraints and weaknesses.

Rationale for Selecting this Model

It was stated earlier that a critical and persistent weakness in competency research is the lack of any recognizable and consistent theory base. The lack of specifiable focus that could be afforded by a theory base makes it impossible to delineate qualities required in the context of instruction and further, to test whether they are critical and why.

The framework presented here was selected because it provides for a theory base to specify instructor competencies. The model identifies actions of an instructor during the course of teaching. Hence, competencies derived from the model would include only those directly related to teaching.

Further specifiability is provided as the model organizes instruction around two dimensions. The instrumental dimension portrays actions taken by an instructor within four different categories. Thus, there are identifiably different foci of acts while teaching. For example, a teacher must at times focus on subject matter (content), at other times on curriculum organization and presentation (processes), and yet at other times on what is needed and how it is best organized for a given learner or group (interelationships of content, process and learner).

The expressive dimension addresses the assumption in earlier competency work that the teacher is totally responsible for the instructional process. The expressive dimension, however, depicts the nature of instruction as transactional. Instructor actions have direct and indirect influences over the learners. The reverse of this is also the case. Further, perceptions of the actions of an instructor do not always coincide with the intentions of such actions. The implication here is that many attributes of humanism enter into the instructional process. These attributes are comprised of numerous psychological and social-cultural phenomena which differ among individuals but influence and are influenced by on-going experiences. Thus, the model helps specify the complexities of the contextual conditions within which an instructor must operate. In so doing, the broad spectrum of competencies required of an instructor become more clear.

Finally, the framework not only helps to organize competency statements, but provides the referent for formulating theoretical positions about instruction. For example, we can argue whether this is the way we should define the role of the instructor. If it is, then those stated earlier are the competencies to fulfill the role. If not, then what should be the definition of the role of an instructor and hence, what competencies are required? Regardless of the outcome of such an argument, a theory base consisting of an explanation of instruction would result. These theoretical positions transformed into hypotheses can be tested against reality. Their corroboration or falsification, whichever results, would help decide whether given competencies are required. Thus, competencies would derive from a theoretical position about instruction rather than personal values or whether the competencies seem reasonable.

References

Bloom, Benjamin, David Krathwohl, Bertram Masia. *Taxonomy of Educational Objectives*. New York: David McKay Company, Inc. 1956.

Boyd, Robert D. "The Teacher Role Model." Unpublished Manuscript; *The University of Wisconsin*, Madison, 1969.

Chamberlain, Martin, N. "The Competencies of the Adult Educator." *Adult Education*. 1961, Vol. 11, pp. 78-83, Winter, Issue 2.

Engelhart, Max, Ed. Furst, Walker Hill and David Krathwohl. *Taxonomy of Educational Objectives*: *Cognitive Domain*, New York: David McKay Company, Inc. 1956.

Halfin, Harold, Orville Nelson and Esther Maier. "Professional Education Competencies Needed by Beginning VTAE Teachers." *Final Report: Center for Vocational Technical and Adult Education*. University of Wisconsin - Stout Menomonie-Wisconsin. 1977, June.

McClellan, Virginia B. "A Study of the Competencies Unique to the Educators of Adults in the Vocational Technical and Ad. Ed. System." *Final Report*. 1975.

Mocker, Donald W. "A Report on the Identification, Classification and Ranking of Competencies Appropriate for A B E Teachers." *University of Missouri*, Kansas City - Center for Resource Development in Adult Education. 1974, July.

Tyler, Ralph, *Basic Principles of Curriculum & Instruction.* Chicago: *University of Chicago Press*. 1950.

Wilson, John P. "Course Development and Instructional Competencies Related to Instruction and Learning with Adult, Distant Learners." Lincoln; *The University of Mid-America*, 1978.

Zinn, Lorraine M. "Adult Basic Education Teacher Competency Inventory Idaho." Center for Resource Development in Adult Education. *University of Missouri - Kansas City*. For the State Department of Education, Boise, Idaho. 1975, May.

Zinn, Lorraine M. "Adult Basic Education Teacher Competency Inventory Virgin Islands." Center for Resource Development in Adult Education. *University of Missouri* - Kansas City. For the Department of Education St. Thomas, Virgin Islands. 1975, March.

COMMUNITY COLLEGE FACULTY ATTITUDES TOWARD COMMUNITY SERVICES

Dennis F. Michaels[1]

PURPOSE

The purpose of this study was to investigate full-time faculty perceptions of and involvement in community services at selected community colleges in Ohio. Community services was subdivided into five parts: administration, instruction, programs, purposes, and students. In addition, involvement by faculty members in community services was divided into planning, teaching, number of community services activities taught, and method of compensation. Previous studies of community college faculty have generally tended to focus on their perceptions of the more traditional instructional programs. This study differs from those by investigating faculty members perceptions of and involvement in community services.

CRITICAL REVIEW OF LITERATURE

The literature suggests full-time faculty members have a low regard for community services. One reason for this may be their lack of involvement in planning and in teaching within this area. Another reason may be their concern for the academic respectability of community service activities. Houle (1960) believed one chief obstacle to the growth of community services in community colleges lay in a negative attitude of the presidents, the deans, the other administrators, and the faculty that community services were secondary to the traditional activities of the college. Harlacher (1969) insisted that many community college administrators and faculty do not accept the community services concept, regarding it as a watering down of the more traditional academic offerings.

In comparing community services to other functions within community colleges faculty tend to assign higher ratings to the traditional functions. For example, from a 1960 study Medsker concluded that three-fourths and two-thirds respectively of two-year college faculty thought the transfer function and vocational-technical function were very important. Whereas only one-fourth and only one-third respectively of the faculty thought vocational and general academic adult education were very important. A decade later Kelley and Wilbur (1970) asked faculty to rate from .0 to 4.0 the importance of twenty-two selected aspects within a community college. The highest rating of 3.4 was assigned to academic freedom with the lowest rating of 2.5 for student personnel services. Adult education was rated 2.8 and community services received a 2.7 rating. According to the rating scale all functions were rated above average in importance, but in relationship to the other functions, adult education and community services were rated relatively low in importance.

---

[1] Dennis F. Michaels, Recent Ph.D. Graduate in Adult Education From The Ohio State University, 1715 Emerald Drive, Lorain, Ohio 44053

Faculty support or lack of support for community services may have ramifications not only within the college but also externally throughout the community. Johnson (1965) suggested that the perceptions and attitudes of faculty will eventually exert a major influence on the goals, philosophy and effectiveness of two-year colleges.

Little is known about faculty attitudes toward quality of instruction within community services, except that various authors have written about the need for full-time faculty to teach in this area. Deshler, Farmer and Sheats (1975) have said that since faculty members are a primary resource in every community college, the extent of faculty participation in and support for community service efforts becomes a critical variable in strengthening and continuing or weakening and discontinuing these efforts. Monroe (1972) questioned whether the faculty for community services courses should differ from the regular faculty. The same dynamic, student-centered teacher who is needed to stimulate and teach students in the traditional courses is equally needed in the community services classes. If a community college is going to be community based, it needs to understand the community and a vehicle for better understanding may be full-time faculty instruction of adults in community services. Vaughan (1975) proposed that as a part of their regular assignment, all community college faculty members should automatically have twenty percent of their time assigned to community services. This twenty percent of faculty time could be compensated for by part-time faculty teaching students in the credit courses. The result might be a better understanding and appreciation for each other's goals.

There are numerous avenues through which faculty may become involved within community services such as being teachers, consultants, researchers or planners. According to Raines and Myran (1972) it has become clear that meaningful change in community colleges in the direction of community responsiveness requires the commitment and energy of most of the staff members, particularly those who teach. Commenting on the need for faculty conducting community studies and helping to solve community problems, Reynolds (1956) considered that the specialized competence of faculty and administrators provides a valuable resevoir from which personnel can be drawn to make or direct such needed studies.

The literature seems to indicate that some full-time faculty who have become involved with community services become discontented with the faculty reward system as it is applied to this area. These faculty find that financial compensation is usally lower, little credit is given toward promotion and tenure, and little if any burden is taken from their full-time teaching load.

Since faculty are the primary agents for community relationships, curriculum development, instruction, and interaction with students, their attitudes and actions influence the nature and quality of community services programs. Deshler, Farmer, and Sheats (1975) observed that faculty tend only to support those community services activities which they consider educationally sound. A Maryland interviewee questioned by Harlacher (1969) felt the full-time faculty were concerned that community service activities did not meet college standards; therefore, distracting from their preferred image of academic transfer preparation.

METHODOLOGY

Sample

A random sample of 300 was drawn from a population of 841 full-time faculty from six of the seven locally supported community colleges in Ohio. Full-time faculty were defined as all full-time certified community college employees inclusive of teachers, nurses, counselors, and librarians who held full-time faculty status.

Data Collection Technique

The data were collected utilizing the mail survey technique. The cover letter, instrument, and a return stamped self addressed envelope were distributed to full-time faculty members through the campus mail. A local contact person was assigned to distribute the above survey packet. The total time involved in the survey process was seven weeks from the initial mailing to one week after the final mailing. Five mailings and one on site visitation with non-respondents accounted for a return rate of 83.0 percent.

Instrumentation

A Likert-type scale of thirty-five items was used to measure the respondents' perceptions of and involvement in community services.

The survey instrument was divided into three parts. Twelve questions provided faculty biographical information and served as the independent variables; thirty-five items were designed to test hypotheses concerning faculty members' perceptions of community services administration, quality of instruction, programs, purposes, and students; and one optional open-ended question was used to provide full-time faculty the opportunity to comment on how they believe community services could improve its programs and services.

The variables used to test null hypotheses concerning full-time faculty members' perceptions of and involvement in community services were: sex; planning involvement in community services; teaching involvement in community services; number of community services activities taught; and method of compensation for teaching community services; chronological age; previous employment level; number of years employed at a community college; preferred educational level for employment; academic rank; subject matter area; and highest degree held.

The instrument was reviewed by a jury of educators; afterwhich it was revised and sent to ten randomly selected full-time community college faculty members. After the instrument was administered, each of these faculty members were interviewed for suggestions and comments; thereafter, the instrument was appropriately revised. The instrument was entitled, Survey: Full-Time Faculty Members' Attitudes Toward Community Services.

Analysis

Data were analyzed by either the t test or the analysis of variance. If the ANOVA resulted in a statistically significant difference, then Scheffe's post hoc analysis was employed to isolate the presence, nature and extent of the difference. The alpha level chosen for rejection of each Hypothesis was the .05 level of significance. Demographic data were described and discussed through frequency distributions, measures ofcentral tendency and crosstabulation procedures, the subjective comments of the optional question were grouped into categories and any noticeable trends were discussed.

RESULTS AND DISCUSSION

Several findings were statiscally significant; however, chronological age, preferred educational level, and degree classification made no significant difference relative to full-time faculty members' perceptions of and involvement in community services. Nor did number of community services activities taught and method of compensation reveal any significant differences in full-time faculty members' perceptions of community services. Also, no significant difference regarding full-time faculty members' involvement in community services was noted based on academic rank. The following represent statiscally significant findings.

Difference in Perceptions of Community Services According to Sex

Female full-time faculty had more favorable perceptions of community services programs than male full-time faculty. Thus, female full-time faculty might be more inclined to support the development of community services programs than male full-time faculty. Depending on the method of compensation, female full-time faculty were more involved in community services activities than male full-time faculty. It seems as though full-time faculty teach within the community services division depending on the method of compensation they receive for teaching community services activities. These findings corroborate those of earlier studies which concluded that female faculty generally have more favorable perceptions or seem more inclined to support community services than male faculty. Perhaps certain types of community services activities which involve female full-time faculty members result in favorable perceptions toward community services programs. It is important to continue attracting more female full-time faculty members in community services but even more so it is critical to involve more male faculty members for they traditionally tend to represent the faculty power structure within the college.

Differences in Perceptions of Community Services According to Whether or Not Faculty Members Have Been Involved in the Planning Process

Full-time faculty who helped plan community services activities had more favorable perceptions of community services administration than those with no planning involvement. Because of this attitude, full-time faculty who helped plan community services activities might be more inclined to support the administration of community services than those with no planning involvement. Also, this may suggest a need to have more full-time faculty involved in planning community services activities. A moderately high representation of full-time faculty (54.6 percent) helped plan community services activities which accounted for the highest percentage of faculty involvement in community services. Planning seems to represent the accepted avenue for becoming involved in community services.

Differences in Perceptions of Community Services According to Whether Or Not Faculty Members Have Been Involved in Teaching Community Services

Full-time faculty who taught community services activities had more favorable perceptions of community services programs than those with no teaching involvement. Therefore, full-time faculty who taught community services activities might be more inclined to support community services programs than those with no teaching involvement. Also, this may suggest a need to have more full-time faculty involved in teaching community services activities. A plausible explanation for this trend may be that the responding faculty, through their teaching involvement, gain a better understanding of the goals, objectives and content of community services courses. Another speculation concerning this relationship is that those who taught community services activities had a vested interest in personally believing they taught well; therefore, by indicating favorable perceptions of community services they may have been favorably rating themselves.

Full-time faculty who helped plan or teach community services activities had favorable perceptions respectively of community services administration and programs. Therefore, involvement in planning and teaching community services seems to be a key factor relative to how full-time faculty perceive community services activities. In order to increase full-time faculty involvement in community services, community colleges may have to reevaluate their policies relative to a) review, promotion and tenure, and b) reimbursement for teaching community services activities. Community colleges' official policy related to the faculty review process usually lists teaching, advisement, governance and public or community service as faculty responsibilities. The extent to which each of these is stressed is directly related to the particular college.

Differences in Perceptions of Community Services According to Previous Employment Level

Full-time faculty members grouped according to previous employment level had favorable perceptions of community services administration. Based on previous employment level, full-time faculty were significantly involved in teaching community services activities. Thus, depending on their previous employment level, full-time faculty might support the administration of community services activities.

Furthermore, full-time faculty with no previous employment experience were more involved in planning community services than those with prior employment at a community-junior college. A possible explanation for this difference is that faculty with no prior employment experience came directly from a graduate school; thus, recently exposed to the growing trend toward adult education within colleges and universities. This exposure may have given them the impetus for their planning involvement in community services. These faculty members were lowest in academic rank and may have become involved in planning community services activities for financial, promotion, and tenure reasons. Also, they may have viewed their involvement as a stepping stone to more prestigious planning committee within the community college. Surprisingly, faculty who had prior experience at a community college were not as involved in planning community services activities as faculty recently from a graduate school. Prior community college employment seems not to be indicative of faculty involvement in planning community services activities. Perhaps these faculty members had no planning exposure to community services at their previous community college.

Differences in Perceptions of Community Services According to Number of Years Faculty Members Have Been Employed at a Community College

Full-time faculty members grouped according to number of years employed at a community college had favorable perceptions of community services programs. Attitudes toward community services programs seem to be influenced by the number of years full-time faculty have been employed at a community college. Furthermore, full-time faculty with one to two years community college employment were more involved in planning community services activities than those with three to four years employment at a community college. Two speculations which could apply to this variable were mentioned under the variable, previous employment level. More specifically, those speculations concerned recent exposure to adult education and faculty academic rank. A possible implication is that faculty with more experience at a community college have less planning involvement in community services; therefore, the division of community services is not gaining the insights of many of the more experienced faculty members. Initial involvement in community services needs to be nurtured because of the favorable perceptions occurring in the first two years of teaching and planning community services. Thereafter, it is important for the chief administrator of community services to promote and maintain favorable perceptions toward community services.

Differences in Perceptions of Community Services According to Academic Rank

Instructors had more favorable perceptions of community services students than professors or associate professors. Based on this and previous information it seems reasonable to suggest that the younger and least experienced faculty members have more favorable attitudes toward community services students than the older and more experienced faculty members. Also, professors and associate professors may have less exposure to community services. This findings has critical implications for the development of community services as an equal and integral part of the community college. Professors and associate professors usually comprise the faculty power structure and correspondingly exert the most faculty influence within the college community. Because of their power and influence it is imperative that they have favorable perceptions of community services. Without their help it will be difficult for the division of community services to achieve a peer relationship within the college community.

Differences in Perceptions of Community Services According to Subject Matter Area

Full-time faculty members grouped according to subject matter area had favorable perceptions of community services administration and purposes. Furthermore, full-time faculty in counseling had more favorable perceptions of community services purposes than did those in the humanities-languages. The following discussion may provide a plausible explanation. One of the major theoretical foundations of the community college philosophy is the "open door" concept, whereby the community college is committed to providing a college education to residents of the community. Within this context, students enroll who may be ill-equiped academically; therefore, counselors are employed to provide the necessary guidance and counseling to prevent the "open door" from becoming a "revolving door". These counselors probably were employed both for their professional and personal skills in dealing with these new students. Previous studies have shown that faculty teaching in the humanities-languages tend to be less sympathetic to the purposes of the community college.

Counselors recorded the highest response rate (92.9 percent) in indicating the community-junior college as their preferred level of employment. In contrast, faculty within the humanities-languages had the second lowest reponse rate (76.1 percent) for choosing the community-junior college as their preference for employment. Moreover, faculty in counseling indicated a 7.1 percent preference for K-12 employment, and those in humanities-languages indicated a 23.9 percent employment preference for either a four-year college or university.

RECOMMENDATIONS

The community college should increase its commitment to community services inclusive of full-time faculty, finances and staff, but most of all a philosophical commitment to the consept of community services as an equal and integral function of the community college.

More full-time faculty should become involved in teaching and planning community services activities.

The chief administrator of community services should be designated as a top-level administrator in the community college's organizational structure. He should report directly to the President of the college. This direct reporting would simplify administration and provide built-in status for community services as viewed by college administrators, faculty and staff. Moreover, he should be a member of the major policy making committee of the college; therefore, providing greater interaction with his peers.

REFERENCES

1. Deshler, David; Farmer, James A., Jr.; and Sheats, Paul H. Developing Community Services in the Seventies: New Roles for Higher Education. Los Angeles: Graduate School of Education. University of California, 1975.

2. Harlacher, Ervin L. The Community Dimension of the Community College. Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1969.

3. Houle, Cyril O. "The Obligation of the Junior College for Community Services." The Junior College Journal (May 1960): 502-516.

4. Johnson, Lamar B. New Directions for Instruction in the Junior College. Los Angeles: Junior College Leadership Program. Graduate School of Education. University of California, Occasional Report No. 7, 1965.

5. Kelley, Win., and Wilbur, Leslie. Teaching in the Community Junior College. New York: Meredity Corporation, 1971.

6. Medsker, Leland L. The Junior College: Progress and Prospect. New York: McGraw-Hill Book Co., Inc., 1960.

7. Monroe, Charles R. Profile of the Community College. San Francisco: Jossey-Bass Publishers, 1972.

8. Raines, May R. and Myran, Gunder A. "Community Services: Goals for 1980." Community and Junior College Journal 42 (April 1972) 12-16.

9. Reynolds, James W. "Community Services." In The Public Junior College, pp. 140-160. Edited by Nelson B. Henry. National Society for the Study of Education. 55th Yearbook, Part I. Chicago: The University of Chicago Press, 1956.

10. Vaughan, George B. "A President's Formula: Involving the Entire Faculty in Community Services." Community College Review. 2 (March 1975): 48-52.

COOPERATIVE EXTENSION, THE CARTER ADMINISTRATION, AND THE 95th CONGRESS: AN EMPIRICAL MODEL OF THE POLITICS OF APPROPRIATION

By

David W. Stewart*
University of Wisconsin Extended Degree Programs

As the largest informal adult education enterprise in the United States, the Cooperative Extension Service has grown accustomed to and thrived on annual infusions of federal funds. This process has been in place since 1915 when federal payments to the states for Extension programming began after being authorized under the Smith-Lever Act of 1914. In each of these years, the Cooperative Extension Service has had to compete for what it considered to be its share of the federal dollars available for appropriation. The research effort that is defined in this study is focused on the most recent of these competitive ventures as the Cooperative Extension Service advanced its programs for consideration by the Carter Administration and by the 95th Congress for Fiscal Year 1979 (October 1, 1978 - September 31, 1979).

THE PROBLEM AND RESEARCH QUESTIONS

A number of questions shape the problem as defined in this study. What are the components of a successful and sustained program to push forward the appropriation for a major adult education organization such as the Cooperative Extension Service? Why does Cooperative Extension do so much better than other adult education organizations in acquiring federal support? How can this model be improved to better serve the Cooperative Extension Service in future years? Are there danger signals that should be called to the attention of Extension leaders? Are elements of the model suitable for adaptation to other adult education organizations?

Stemming from these dimensional questions are two basic research questions -- one empirical and the other methodological. These are:

1. What are the components of and interactions within the empirical political interaction model used by the Cooperative Extension Service in developing its Fiscal Year 1979 budget request through the Carter Administration and the 95th Congress?
2. Is systems theory, as developed by David Easton, functional in enabling the researcher to study and systematically analyze the intermediate-level political system represented by the Cooperative Extension service interactions at the federal level?

A corollary question is: Can the Cooperative Extension Service political interaction model be adapted for use by other agencies of adult education?

---

* David W. Stewart, University of Wisconsin Extended Degree Programs, 1600 Van Hise Hall, Madison, Wisconsin 53706

REVIEW OF LITERATURE

In order to adequately understand the concepts and operation of the politics surrounding development of the Fiscal Year 1979 Extension Service budget, it was necessary to systematically review five major bodies of literature. These were the literature of: (1) interest or "pressure" groups, (2) lobbying, (3) political attitudes and political involvement, (4) legislative processes at the federal level, and (5) the history and nature of the Cooperative Extension Service. Also reviewed but in a different category of knowledge are official government documents (hearing records, committee reports, Congressional Record, bill drafts, etc.).

Interest Groups

Arthur Bentley and David Truman, along with Earl Latham, are the seminal contributors to what is generally known as group theories of politics or, in some contexts, as the pluralist school. Given that politics is a process by which resources and values are authoritatively allocated, the pluralists go on to describe "masses of activity", i.e. groups, which have common tendencies when oriented to influencing decisionmaking. Within this schema, Extension becomes one among many groups contesting for a share of various resources and values.

Lobbying

A study of interest group politics inevitably leads one to an examination of lobbying -- an activity looked down upon by many adult educators. The definitive work in this field is The Washington Lobbyists by Lester Milbrath. Milbrath defines lobbying as consisting basically of three categories of communication, those of (1) facts, (2) arguments, and (3) power. This classification (actually a continuum) proved extremely useful in assessing the intensity of the lobbying efforts on behalf of Extension in the Fiscal Year 1979 appropriations environment.

Political Involvement

A highlight among a sizeable body of literature dealing with why people become involved in politics is the contribution of Robert E. Lane. In Political Life: Why People Get Involved in Politics, Lane explores links between organizational membership by an individual and that person's degree of involvement. He found that the more attached a member is to an association, the more politically involved he is likely to be -- a fact which has relevance in evaluating Extension's development of lay leadership groups for political action from among groups of clients.

Legislative Process

Basic, comprehensive, and precise in its definitions is The Politics of the Budgetary Process by Aaron Wildavsky. It is Wildavsky who presents the concept of a budget as the logical subject for study of any "politics of" phenomenon. Superb analysis of budgetary politics within Congress is presented in The Power of the Purse: Appropriations Politics in Congress by Richard Fenno. While this volume is somewhat out of date (it was published before enactment of the Congressional Budget and Impoundment Control Act of 1974), it is a thoroughly scholarly look at key budgetary activities that still characterize the process even under some amended ground rules. When set against the norms and procedures outlined by Fenno, Extension's legislative interaction model was brought into sharper focus and Fiscal Year 1979 was revealed as an atypical year in a number of ways.

History and Nature of Extension

Unhappily, much of what has been written about the Cooperative Extension Service is uncritical and boosterish in its orientation to the programs and traditions of Extension. Badly needed, and as yet undelivered, is a truly objective and current chronicle. A quite good, but old (1928), work by Alfred True is A History of Agricultural Extension Work in the United States 1885-1923. This is an adequate accounting of Extension's early history and is probably the best beginning place for the researcher. Charles Hardin's The Politics of Agriculture is useful in placing Extension's political concern in the context of the entire agricultural establishment. Hard Tomatoes/Hard Times, edited by Jim Hightower, is a contemporary and harshly critical assessment of Extension. The philosophy evident in this book quite largely prevails at the present time in the executive branch of government.

THEORETICAL FRAMEWORK

Systems theory, as developed by political scientist David Easton, is the theoretical framework selected for defining and explaining the political model used at the federal level by the Cooperative Extension Service. The most basic systems theory concepts are: (1) political system, (2) political interaction, (3) environment, (4) demand inputs, (5) support inputs, (6) conversion processes, (7) outputs, and (8) feedback. The essence (not the appropriate full definition) of these concepts may be described in the following manner.

Political system, the gross unit of analysis in systems theory, is a set of interactions abstracted from the totality of social behavior through which values are authoritatively allocated for a society. Political interactions are interactions abstracted from the total interactions in which a person engages which are oriented to politics (authoritative allocation of resources or values), regardless of what official position is occupied by an individual. Environment is the milieu in which a political system functions. Demand inputs are expressions of opinion that an authoritative allocation with regard to a particular subject matter should or should not be made by those responsible for a decision. Support inputs convey the impression to a policymaker that either reward or punishment (including intangible emotional rewards and punishments) may be expected as a result of a particular type of political behavior. Conversion processes are used by a political system in transforming inputs (demands and supports) into outputs, i.e. values or resources authoritatively allocated. Outputs are the authoritative allocations of values or resources or binding decisions and the actions implementing and related to them. Feedback is the flow of information as to the effects of demands and supports that is stimulated by outputs to the environment and that is communicated back as an input to the system.

The empirical model for legislative interaction used by Extension is set forth using the conceptual framework provided by systems theory.

METHODOLOGY FOR DATA COLLECTION

Apart from review of literature, data for this research effort were assembled via personal interviews, by attendance at a Congressional Subcommittee markup session, and by attendance at two instructional workshops held in Washington, D.C. A total of 53 interviews, most of them conducted in Washington, D.C., were employed. These interviews were with officials in the executive branch of government, members of

341

Congress, Congressional staff, Cooperative Extension administrative and faculty personnel, associate executives, and members of a team that is conducting a Congressionally-mandated evaluation of the Cooperative Extension Service. The interviews were semi-structured.

RESULTS

The Extension Committee on Organization and Policy (ECOP), which is an arm of the National Association of State Universities and Land-Grant Colleges (NASULGC), was the structural core of the model for political interaction used by Extension during the Fiscal Year 1979 budgetary deliberations.

The Extension FY 1979 appropriation was developed within an environment that was overwhelmingly negative. In sum, the following major negative environmental factors were identified: (1) state of U.S. economy, (2) California's tax-limiting Proposition 13 , (3) the increasingly urbanized character of the United States, (4) the American Agricultural Movement's "spring offensive", (5) zero-base budgeting in the federal government, (6) Presidential veto threat, (7) U.S. Department of Agriculture (USDA) reorganization, (8) the Congressional Budget and Impoundment Control Act of 1974, (9) Extension's perceived identity crisis, and (10) the "Hard Tomatoes" syndrome, an aggregation of negative factors stemming from the book Hard Tomatoes/Hard Times edited by Jim Hightower.

There was only one favorable factor in the FY 1979 environment for Extension , i.e. a substantial "wellspring of support" at the local level.

There was a third category of environmental factors, i.e. factors present and presenting potential for either positive or negative influence but which were essentially neutral during FY 1979 deliberations. These were: (1) the role of U.S. agriculture in the world economy, (2) perceptions of Extension as Republican in orientation, and (3) the Congressionally-mandated evaluation of Extension.

Demand inputs within the political system were generated and orchestrated by the Extension Committee on Organization and Policy (ECOP). There were four sources of such demand: (1) Extension Service appointees or their official representatives in the National Association of State Universities and Land-Grant Colleges (NASULGC), (2) individual clients of the Extension Service, (3) interest groups at the local level supporting Extension, and (4) Extension advocates within the political system. Demand was articulated by these individuals and groups through letters, phone calls, personal visits to policymakers, appearances at official Congressional hearings, and informal meetings with policymakers in both legislative and executive branches of government.

There was little or no counter-demand, i.e. demand for reduction of the Cooperative Extension Service appropriation. Competitive demand was, however, intense in an environment characterized by pressures toward fiscal stringency.

The concept of support is less empirical than the concept of demand. Support may mingle with demand as when a demand for a particular action is coupled with an actual or potential political campaign contribution. But often support is muted. It is what a particular person or group might do as perceived by a member of the political system that is the motivating force.

To the extent that support of various kinds can be identified within the political system in which the Extension FY 1979 appropriation was developed, it can be identified in the following kinds of attitudes and activities: (1) the wellspring of good will, especially in Congress, for Extension programs as they are perceived to operate in American counties, (2) awards of various kinds that are given to members of Congress or persons in the Executive Branch by Extension supporters, (3) invitations to members of Congress or USDA officials to speak at Extension-sponsored or Extension-related meetings, and (4) campaign contributions from agriculture-related (though not Extension-specific) groups to key members of Congress.

There was also a rather amorphous body of counter-support (muted opposition) to Extension. This input to the System was not expressed as counter-demand but found expression around impressions left by the book Hard Tomatoes/Hard Times, edited by Jim Hightower and published in 1973. The essence of this volume is that the Cooperative Extension Service is too often sclerotic, old-fashioned, in-bred, weak, loathe to demonstrate accountability, and generally unwilling to change.

The basic conversion structures within which the Extension appropriation was directly developed may be inventoried as follows: ECOP's Legislative Subcommittee; ECOP itself; Extension's state and territorial directors; NASULGC's Division of Agriculture Committee on the USDA Budget; NASULGC's Federal Budget Subcommittee of the Senate Executive Committee; the NASULGC Senate Executive Committee; Extension Service - USDA (later incorporated in the Science and Education Administration of USDA); USDA's Program and Budget Review Board; Office of Management and Budget (OMB); the President of the United States; House Appropriations Committee and its Subcommittee on Agriculture, Rural Development, and Related Agencies; House of Representatives; Senate Appropriations Committee and its Subcommittee on Agriculture, Rural Development, and Related Agencies; Senate; and the Joint House-Senate Appropriations Conference Committee.

There were also a number of conversion structures exerting indirect influence on development of the Extension appropriation. These included the House and Senate Budget Committees and the House and Senate Committees on Agriculture which have legislative authorizing responsibilities.

Feedback to, from, and within, conversion structures was facilitated by ECOP in cooperation with its parent NASULGC.

Output for Fiscal Year 1979 was an Extension appropriation of approximately $275 million which includes both USDA administrative costs and Bankhead-Jones instructional funds which are administered by, though not as part of, Extension.

The Extension model for political interaction at the federal level is outlined and defined in terms of systems theory concepts in the foregoing paragraphs. This analysis constitutes the answer to the first basic research question, i.e. what are the components of and interactions within the Extension model?

The second basic research question related to the applicability of systems theory which was designed by its creator to apply primarily to macro-level political systems, i.e. nation states, international systems. Is it functional in enabling the researcher to study and analyze the intermediate-level political system represented by the Cooperative Extension Service's interactions at the federal level in the United States?

The conclusion presented in this study is that systems theory does apply: it is functional in analyzing the Extension political system. It allows the researcher to define and classify empirical concepts. It provides a logical framework within which these concepts are ordered, where cause and effect may be related. It has heuristic, as well as descriptive, applications in that the researcher may uncover relationships and facts that had not been evident previously. With systems theory, the ultimate empirical description of the system with its constituent processes can be cast not only in terms of structure but also in terms of possibly significant relationships.

The theory is, however, flawed in the defintion of one of its concepts -- that of support inputs. David Easton is unaccountability fuzzy in his defintions of this concept. It becomes necessary therefore for the using researcher to derive his own definition, using the characteristics of support that are present or sometimes implicit in Easton's work. The definition of support used in this piece of research was serviceable in defining systemic inputs related to motivating political actors.

IMPLICATIONS

The empirical model herein defined did not function well for Extension in the overwhelmingly negative appropriations environment of FY 1979. In total, the appropriation increased by only about 2.6% over the comparable appropropriation for FY 1978, this during a period when inflation was running at between 8 and 10 percent. An assessment of the strengths and weaknesses of the model provides some idea of the nature of Extension's difficulties.

Strengths of the Model

With its roots in virtually all American counties, the Extension Service possesses an enviable mechanism not only for determining needs and opinions at the local level but also for articulating these needs and opinions as demands and supports to the federal establishment. This comprehensive national coverage alone sets Extension distinctly apart from all other agencies of adult education in the United States.

Extension's great strength is in the legislative branch of government. It demonstrated in FY 1979 a remarkable ability to deliver demands and supports to policymakers in the legislative branch -- particularly in the House of Representatives. Cuts and "no-increase" recommendations of the executive branch agencies were, in part, overcome with the help of Congress as Extension did achieve some modest increase in Smith-Lever formula funds and in various earmarked program areas. If the results were disappointing, the fault is not as much with the model of interaction as with the heavily negative environment within which it functioned.

The model is operationally flexible and permits ECOP and its Legislative Subcommitte to move quickly in initiating and responding to significant events in the appropriations environment. ECOP also possesses a policy analysis capability that permits it to determine the anticipated effects of particular actions on its programs at the local level. A generally fast and complete communications network allows ECOP to rapidly acquire and disseminate important information. The organization has access to decisionmaking structures in the executive, as well as legislative, branch via the Science and Education Administration in USDA and a traditional special entree to the Office of Management and Budget.

Weaknesses of the Model

However, there are weaknesses in the Extension model, as well. At the heart of the problem for Extension in FY 1979 was that the methods that are so successful in articulating demand and support to the legislative branch were generally dysfunctional in interactions with the executive branch (USDA and OMB). For evidence of this weakness, one need look no farther than to note that ECOP during FY 1979 deliberations was basically engaged in getting Congress to restore cuts or omissions regarding the Extension portion of the President's budget. Where increased or even maintenance-level appropriations were achieved, such gains were made over the strong opposition of the Carter Administration.

The roots of this problem in the executive branch are not partisan. Presidents, at least since Eisenhower, have been unsupportive of Extension budgetary aspirations. In FY 1979, the reason for executive branch opposition (apart from unfavorable factors in the environment) was basically that demands and support on behalf of Extension were not articulated in the language of the executive branch. Facts and arguments presented by Extension advocates were not cast in the analytical mode preferred by the current generation of governmental managers. Beyond this, power that Extension can present from the local level and that is so effective in motivating Congress was not mustered in comparable force and directed at the executive branch which listens to a more diffuse national constituency. Administration policymakers perceived far more support to them for effecting budgetary cuts (even though this type of support was not Extension-specific) than support for granting more generous appropriations to Extension.

Extension's core base of Smith-Lever block grants, which is largely unearmarked, is a further source of difficulty for Extension. Such appropriations are no longer fashionable in an era where greater emphasis is being placed on accountability.

Other Adult Education Applications

Extension's model of political interaction is the envy of the entire adult education establishment. Many have tried to study it and to discover ways in which it could be applied elsewhere. Based on this study of Extension's performance in the FY 1979 appropriations environment, can the Extension political model be transferred for use by other adult education organizations? The answer is no if transfer refers to structure, but yes if transfer refers to the principles of interaction that are applied.

The structure of Extension's political model places the organization uniquely as almost an arm of the federal government -- with its privileged position within USDA. This is a concept not at all in tune with present thinking which envisions less permanent, and more targeted, federal machinery. Extension's position within USDA is vulnerable in that it is semi-independent and therefore may be less responsive to what the Secretary of Agriculture may perceive as national, as compared to local, priorities. Given the choice, any Administration will favor programs over which it has more control and with which it can be more clearly identified in the eyes of the public.

The principles employed by Extension in its political model will, however, be useful to others in adult education insofar as they can be applied to organized activities aimed at articulating demand and organizing support aimed at the legislative branch of government.

Life Crises and Career Change in Adult Educators

Lynn E. Davie
Ontario Institute for Studies
In Education

In recent years, many investigators have documented the existence of a series of life crises or major life stages during adulthood (Erikson, 1959; Lowenthal and Chiriboga, 1973; Gould, 1972; and Sheehy, 1974). Though each study varies somewhat in the names and positions of the various life stages, the studies taken together provide impressive evidence for the existence of major periods of change for the adults in the early thirties and early forties. These periods in life are posited as major branching points in people's lives.

Very little is known about the educators of adults, though the field has been growing explosively in the past decade. There are a few descriptive studies such as Susan Wilson's 1973 study of the status of women in the Adult Education Association of the United States (Wilson, 1973), and collections of biographical material. Yet, for the size of the adult education activity, and the complexity of the required job skills, few studies have focussed on the kinds of decisions and changes which occur in the lives of adult education practioners. This study was part of a larger study which examined a variety of questions related to the career of an adult education professional. (Abbey et al, 1978)

The present study focussed on the following questions;

(1) What kinds of life crises or major changes have the individuals experienced?

(2) What kinds of emotions predominated during these changes?

(3) When did the most recent life stage begin?

(4) How are career changes related to life cycle concerns?

(5) Are there differences in life cycles patterns among educators who identify themselves as administrators, teachers or counsellors of adults? and

(6) Are there sex differences in the relationship between career changes and life cycle concerns?

METHOD

Population and Sample

The population was comprised of full-time, adult educators residing within approximately 300 miles of Toronto. Adult educators were broadly defined as persons whose primary occupational role involved them in teaching, counselling or administering in education programs for adults. Based on a preliminary screening of approximately 500 adult educators randomly selected from lists of relevant professional associations, a sample of 90 individuals were selected, equally distributed in two age panels representing presumed differences in a career stage (young adult educators aged 35 and less and mid-career adult educators aged 40 and more). Due to funding restrictions, the sample had to be reduced to 69 individuals living in and around Toronto.

Interview Instrument

Each participant was asked to engage in a collaborative exploration of the relationship between the person's career and his or her life concerns.

The participant was asked to describe the change that led to his or her present stage of life. In addition, he or she was asked to indicate the age at which the change began, whether other significant individuals were involved, whether it was a time of high emotion, and what the predominant emotions were. After the description was complete the individual was shown the interviewer's notes and asked if they were complete, and if they accurately reflected the individual's memories of the time of change. Next, the participant was asked to think about the time before the beginning of the present stage of life.

The participant was asked to identify changes in the following: (1) Changes in career or job; (2) Changes in where you lived; (3) Changes in your values; (4) Major changes in income; (5) Changes in the size or composition of family; (6) Changes in relationships with other people; (7) Changes in health; (8) Changes in maritial relationship; and (9) Other important changes.

Finally, the participant was asked to think of the time after the beginning of the present stage of life and to indicate changes which resulted from the life stage change.

Most interviews required approximately 45 minutes to complete and the participants reacted favorably to the process. No one refused to participate and several commented positively about the experience.

Coding the Results

The first step in coding the results was to compare the data recorded on the forms with the tape recordings of the interview. A sample of the interviews were selected and 38 of the forms were checked against the tape recordings of the interviews by the principal investigator. The results were remarkably consistent. Although the tape occasionally clarified the notes, the forms proved to be complete and accurate. Second, the description of the beginning of the present stage of life was examined and a set of categories was developed which described these major life changes. The emotions reported by the participant at the time of the major life change were also classified into a set of descriptive categories.

RESULTS

Type of Major Changes

Ten descriptive categories were developed for the analysis of the changes marking the beginning of the present stage of life. The number of life changes in each category are reported in Table 1 by job category.

The major finding of interest in Table 1 is the large proportion of administrators who marked the beginning of their present stage of life as the assumption of their present administrative position. Both the teachers and counsellors had a wider variation in the types of changes and the two latter groups were more likely to see a change of emphasis in their work as marking the major life change. There seemed to be little difference in the other categories of major life changes.

TABLE 1

CHANGES REPORTED AS MARKING THE BEGINNING OF THE PRESENT STAGE OF LIFE BY JOB CATEGORY

Type of Change	Administrators		Teachers		Counsellors		Totals	
	N	%	N	%	N	%	N	%
To take present position	22	85	6	26	8	40	36	52
Change Emphasis in work	0	0	6	26	2	10	8	12
Reassessment of values	0	0	2	9	2	10	4	6
Separated from spouse	2	8	2	9	1	5	5	7
Marriage-coupling	0	0	1	4	2	10	3	4
To have children	1	4	2	9	1	5	4	6
Return to School	1	4	2	9	3	15	6	9
Change emphasis in school	0	0	0	0	1	5	1	1
Immigration	0	0	1	4	0	0	1	1
Travel	0	0	1	4	0	0	1	1
Totals	26	101*	23	100	20	100	69	99*

*Errors due to rounding

Age of Major Change

TABLE 2

DIFFERENCE BETWEEN REPORTED PRESENT AGE AND THE AGE REPORTED AS THE ONSET OF MAJOR LIFE CHANGE BY JOB CATEGORY AND SEX

Age Difference	Administrators		Teachers		Counsellors		Total	
	Male	Female	Male	Female	Male	Female	N	%
0 Years	1	1	0	1	0	0	3	4
1-3 Years	6	4	2	5	7	0	24	35
4-6 Years	2	3	3	5	3	2	18	26
7-9 Years	6	0	1	4	2	1	14	20
10 Years or More	1	2	1	1	4	1	10	14
Totals	16	10	7	16	16	4	69	99*

*Error due to rounding

The large number of female administrators reporting relatively recent major life changes is quite interesting. In all job categories, the men's life changes are spread more evenly. A sharp distinction can be noted between the patterns for the female administrators and female counsellors. Perhaps the recent lowering of barriers to women in administrative positions could account for some of these differences.

Emotions Reported at the Time of Changes

TABLE 3

EMOTIONS REPORTED AT THE BEGINNING OF THE PRESENT STAGE OF LIFE BY SEX AND AGE

Emotional Category	Male				Female				Total	
	≤35		40≥		≤35		40≥			
	N	%	N	%	N	%	N	%	N	%
Negative Emotion Against Other-Rage, Anger	3	9	1	4	7	17	2	9	13	11
Anxiety, Fear Uncertainty, Stress	17	53	12	50	15	36	9	36	53	44
Failure, Frustration Depression	1	3	4	17	13	30	6	26	24	20
Elation, Enthusiasm, Excitement	11	34	6	25	6	14	5	22	28	23
Searching, Stimulation	0	0	1	4	1	2	1	4	3	2
Totals	32	99*	24	100	42	99*	23	100	121**	100

*Errors due to rounding. ** Multiple Responses were permitted.

The data clearly show that most individuals experience feelings of anxiety or fear during the major life changes, though a surprising number of individuals reported feelings of elation as well. Females reported somewhat fewer feelings of anxiety than males and somewhat greater numbers of negative emotions toward other individuals. Perhaps, the most outstanding difference between the two sexes is the large proportion of females reporting emotions of failure, frustration, and depression.

Females expressed significantly more feelings of high emotions than did males. Table 4 reports the perceptions of high emotion at the time of the most recent major life change.

TABLE 4

NUMBERS OF INDIVIDUALS EXPERIENCING HIGH EMOTION AT THE BEGINNING OF THE PRESENT STAGE OF LIFE BY SEX

	Experienced High Emotions		
	Yes	No	Total
Male	22	17	39
Female	24	6	30
Total	46	23	69

Chi Square = 4.246 $p < .05$ (Phi Coefficient = .25)

Antecedent Changes to the Beginning of the Present Stage of Life

The second part of the interview asked the participant to identify changes which might have been antecedent to the beginning of the present stage of life. Table 5 presents these data organized by job category.

TABLE 5

CHANGES REPORTED AS BEING ANTECEDENT TO THE BEGINNING OF THE PRESENT STAGE OF LIFE

Category of Change	Administrators		Teachers		Counsellors		Total	
	N	%	N	%	N	%	N	%
Change in job or career	17	19	11	18	14	21	42	19
Change in where you lived	13	15	10	16	7	11	30	14
Change in values	14	16	8	13	9	13	31	14
Major changes in income	4	4	6	10	5	7	15	7
Changes in size or composition of family	4	4	5	8	7	11	16	7
Changes in relationships with other people	13	15	10	16	7	11	30	14
Change of health	7	8	4	7	5	7	16	7
Change in marital relationship	11	12	6	10	9	13	26	12
Other important changes	6	7	1	2	4	6	11	5
Totals	89	100	61	100	67	100	217**	99*
N (Respondents)	26		23		20		69	
Average number of changes per respondent	3.43		2.90		3.35		3.14	

*Error due to rounding.
**Multiple responses permitted.

There appear to be few important differences in the kinds of antecedent changes reported by individuals in different categories. Changes in job or career, places where the respondent lived, values, and relationships with other people were reported most often as antecedent to the beginning of the present stage of life.

Resultant Changes from the Onset of the Present Stage of Life

The third part of the interview asked the participant to identify changes which might have resulted from the beginning of the present stage of life. Table 6 presents these data organized by job category.

TABLE 6

CHANGES REPORTED AS RESULTING OR FOLLOWING FROM THE BEGINNING OF THE PRESENT STAGE OF LIFE

Category of Change	Administrators		Teachers		Counsellors		Total	
	N	%	N	%	N	%	N	%
Change in job or career	26	16	17	15	15	17	58	16
Change in where you lived	18	11	12	10	9	10	39	11
Change in values	29	18	21	18	17	19	67	18
Major changes in income	19	12	19	16	9	10	47	13
Changes in the size or composition of family	7	4	3	3	2	2	12	3
Changes in relationships with other people	33	20	19	16	13	15	65	18
Changes in health	11	7	9	8	7	8	27	7
Changes in marital relationship	9	5	11	9	11	12	31	8
Other important changes	12	7	6	5	6	7	24	6
Totals	164	100	117	100	89	100	370**	100
N	26		23		20		69	
Average number of changes per respondent	6.31		5.37		4.45		5.36	

**Multiple responses permitted

Tables 5 and 6 indicate that there are few important differences in either antecedent or resulting changes when examined by job category. There are approximately double the number of resultant changes reported compared to antecedent changes.

What is interesting, however, is the relationship between career decisions and other changes. Comparing Tables 2, 5, 6, it can be seen that some individuals viewed career changes as important turning points in and of themselves, while others viewed the career changes as being antecedent to or resulting from some other major life event. Administrators, as noted, seem to be more prone to mark their life changes with job shifts, while the teachers and counsellors have selected a more varied set of life changes.

No one interviewed reported that a major life change occurred in isolation. Most reported significant changes in values and relationships around life changes. Marital separations were almost always accompanied with changes in jobs or places of residence. Changes clearly occurred in clusters rather than as isolated events.

DISCUSSION

What Kinds of Life Crises or Major Changes Have Adult Educators Experienced?

The major marker events or changes reported were changes in jobs or job orientations. If those returning to school or changing emphases in school are included, more than half of the sample reported a change in career as the significant change which began their present stage of life. The second most important kind of change related to forming or disolving marriages or changes within marriage. These data seem to corroborate the kinds of changes described by developmentsl literature, with perhaps a greater emphasis on career changes than would be indicated by theoretical writings.

What Kinds of Emotions Predominated During These Changes?

Fully three-quarters of all emotions reported were unpleasant, though interviews indicated that pleasant emotions were more likely to occur following the major life change. There were important sex differences noted with a much higher proportion of females reporting anger, feelings of failure and frustration than males.

How are Career Changes Related to Life Cycle Concerns?

For this sample of adult educators, most life cycle concerns seemed to be marked either by job changes or changes in the nature of jobs. There were differences among individuals in different job categories, but as a total group, the job or career is intertwined deeply with the perceived life stage.

Are There Diffferences in Life Cycle Patterns Among Educators Who Identify Themselves as Administrators, Teachers or Counsellors of Adults?

Administrators were much more likely to mark life cycle changes with a change in job than were either teachers or counsellors. Teachers were less likely to report positive emotions during the major life change than were either administrators or counsellors.

Are There Sex Differences in the Relationship Between Career Changes and Life Cycle Concerns?

Females in this sample showed a tendency to have more recent life cycle changes than men, though this difference was more marked in the administrators than either teachers or counsellors. The females were more likely to have experienced high emotions at the time of change, and these emotions were clearly more negative than the emotions reported by the males. The sharp differences between the females and the males clearly indicate a qualitative difference between the way in which careers are experienced by the two sexes.

BIBLIOGRAPHY

Abbey, D., Davie, L., Fales, A., Griffin, V., and Ironside, D. Career Life Understanding of Mature Practitioners: Year One Interviews. Toronto: Department of Adult Education, The Ontario Institute for Studies in Education. Mimeographed 1978.

Erickson, G.H. Identity and the Life Cycle. New York: Internation Universities Press, 1959.

Gould, R. "The Phases of Adult Life: A Study in Developmental Psychology", American Journal of Psychiatry, 129:5, November 1972, pp. 521-531.

Lowenthal, M.F. and Chiriboga, D. "Social Stress and Adaptation; Toward a Life-Course Perspective", in Eisdorfer, C. and L. Powell (Eds.), The Psychology of Adult Development and Aging. Washington, D. C.: American Psychological Association 1973, pp. 281-311.

Sheehy, G. Passages; Predictable Crises of Adult Life. New York: Dalton, 1974.

Wilson, S.E. The Status of Women in the Adult Education Association of the United States of America. Unpublished paper. Department of Adult Education, Federal City College, Washington, D.C., June, 1973.

"Life-Span Developmental Psychology": New Perspectives for Adult Education Researchers

Mary Jane Even
University of Nebraska

The research and theory in the emerging discipline of life-span developmental psychology has grown rapidly since 1940. Within the last ten years, however, the influences of the theory and research, its recognition and popularization with almost universal acceptance, and its utilization and application, places the work of life-span theorists in a most unique research posture. Though it seems most appropriate for adult education researchers to analyze the nature of the historical development of this expanding discipline toward a similar goal, there is a more urgent need for adult educators generally and researchers in particular to analyze the theory and research of life-span developmentalists. Such an analysis would provide adult educators with a greater awareness of socialization process, personality development, life tasks, moral development, ego development and other psych-social dimensions of adulthood. The adult researcher will also recognize methodological and value-laden issues associated with both the theory and research. The new discipline may be viewed by researchers of adult learning, personality, motivation and participation to account for significant variables and theory which could be tested in regard to other research issues.

This paper has as its purpose to provide an interpretation and analysis of the broad nature of the theory and research of this area, analyze the research from the perspective of researchers in adult education, and interpolate the research findings in adult education terminology. To achieve this goal, a short historical review of the theory base, theorists and interpretors will be provided. Following this, an examination of the interpolations made by practitioners in many fields including adult education will be made. An analysis of needed research and related research questions will conclude this brief paper. There is a history of borrowing and reformulating research from other disciplines in adult education. However, interpolation of research findings and analysis of potential research questions is imperative.

The broader field of human life-span developmental psychology has been defined by Baltes and Goulet (1970):

> Human life-span developmental psychology is concerned with the description and explication of ontogenetic (age-related) behavioral changes from birth to death. (p.12)

More specifically, the research of this area has been focused on various regions of interrelated influences on behavioral changes such as personality development and the socialization processes that influence personality (rather than specific psychological development - intelligence, learning, psychomotor development, sensory development or occupational development) especially in the adult period

---

This paper has been excerpted from a larger document by this author which synthesizes research in life-span development from over 200 references. Reprints of either this paper or the larger document may be obtained from the author at: University of Nebraska, Dept. of Adult and Continuing Education, 61 Henzlik Hall, Lincoln, Nebraska 68588.

(Havighurst: 1973: 4); the normative life crises in individual development, in family life cycle, and in the social system (including economic and culture) (Datan: 1975: 3-10); general age stage changes and tasks (Bishof: 1976: 10-18); and other biological, psychological and sociological aspects (Bishof: 1976: 22-41).

In 1973, publication of Life-Span Developmental Psychology: Methodological Issues explicated the range of research issues with which the field will be concerned but also identified theory, measurement design and data analysis related to life-span development research. (p. xi) Issues related to "parent-youth interaction", "cross-cultural research", "assessment of developmental factor change at individual and group level", "strategies for analyzing behavioral change over time", "cognitive assessment over the life span" were among the methodological concerns and directions for needed research. This volume and other literature examines the problems of research with and on adults, but explicitly emphasizes the need to conduct research with individual adults, not groups, using longitudinal methodology. (Also see Baltes and Goulet: 1970)

Some of the theorists who have made considerable impact on this field and who drew their data from long term individual analysis, though in various research formats, are reviewed here.

Charlotte Buhler began her work in 1933 developing and describing basic life tendencies which act to some extent at all stages of life, but have periods of dominance in determining the life-style of the individual. She subdivided the life span into 10 periods. Her basic life tendencies are in order of first domination of the person's behavior: need-satisfaction; adaptive self-limitation (adjustment); creative expansion; establishment of inner order; self-fulfillment. (Havighurst: 1973: 7) Her theory was based on life histories and span the years 1933-1962. Else Frenkel-Brunswik continued Buhler's work at Berkeley and headed a group that studied the social adjustment of men aged 60 and over in the 1950's. Reichard, Livson and Peterson described this first systematic personality study of men at the age of retirement. Their concern was the external event's impact as well as subjective experiences of subjects.

For 30 years, Erik Erikson worked upon the development process and in 1950 published Childhood and Society outlining eight stages of man. Also during the period 1935-1950, a group of researchers which included Robert Havighurst were identifying the demands, constraints and opportunities provided by the social environment on individuals at various ages. The phrase "developmental task" came into use during 1940. In 1948, Havighurst wrote the initial analysis of the tasks for a class booklet and in 1952 and 1972 has been reissued. Havighurst's theory is based on biological development and social expectations which change through the life-span and give direction, force and substance to the development of personality. (Havighurst: 1973: 11)

Between 1954-1964, Bernice Neugarten coordinated the Kansas City Study of Adult Life. She explored the intrapsychic development taking place in men and women from middle into old age. Gutmann, on the Kansas City team, made cross-cultural tests of the universality of age related concerns in Mexico, Arizona (Navajo) and Israel and found expected age trends.

Marjorie F. Lowenthal, George Vaillant and Daniel Levinson have each analyzed stage related concerns building upon earlier identification of age and transitions in the adult period. Later Roger Gould developed a more specific intra-psychic analysis of stage related concern called "Adult Self-Tolerance Levels".

Lawrence Kohlberg, William Perry, and Jane Loevinger developed models of development which are inter-fluential but do not impact directly on stage related concerns. Moral, intellectual and ego developments appear in the literature in juxta position with age/stage theory but each theorist stresses an apparent age development of moral, intellectual and ego factors but not a maintenance of learned skills at any one age. All, however, see development as progressive and inclusive of learned factors. Each notes a potential recycling of stages.

There are other authors who are classified here as interpretors of life-span theory though personal inquiries may have augmented their analyses. Gail Sheehy, Ira Progoff and Elizabeth Kubler-Ross are among others interpretors. Kubler-Ross, however, and the death and dying researchers have linked their research to life-span theorists to account for death as a final stage of growth.

Chickering, Cross, Houle, Adler, Argyris, Feldman, Hersey, Weathersby, McCoy, Knox and Even are other interpretors and interpolators of life-span research within a special discipline. Each uses the life-span theory and its assumptions as a basis for further research and inquiry.

These then are some of the major research themes of the field and the major contributors and interpretors. There has been an immense amount of theory generated, most of which has been substantiated by forms of research. The interpolation and application of the research and theory has been extensive.

In conferences and workshops, individuals representing a variety of agencies and institutions involved in numerous work orientations have enthusiastically sought information of adult life cycle. Persons have sought applicability and utility though little or no concern has been demonstrated that the knowledge base is actually consistant or appropriate. An analogy of the situation might parallel the quick acceptance of Carl Roger's theory of "self concept" though acceptors were not really knowledgable or aware of Roger's underlying assumptions which may not always have been as acceptable. Researchers, however, should take the underlying assumptions and theory into account when interpolating theory for research.

The variety of ways and settings this researcher has seen the life-span research transported are numerous: application to oneself; helping others apply the theory to themselves; analyzing needs of persons for planning programs; recognizing outcomes sought by adults who are involved in advising or teaching processes; death and dying advocacy; career planning and career development; curriculum advising; life skill planning and teaching; community education processes; counseling practices; crisis intervention; mid-life career change counseling; retirement and disengagement workshops; change and partnership survival workshops; adoption of new practices and maturation counseling; organizations involved in mid-life work adjustment for employees; religion and human growth counseling; stress analysis; health services; community services; sociology; social work; religious education; psychology; psychiatry; continuing education; program planning; adult education e.g. adult life cycle center at University of Kansas. Practitioners have lost no time borrowing life-span theory. If indeed there are so many areas of application, the variables for potential consideration in research are enormous. Within each application there are assumptions of relationships, assumptions about theory relevance, appropriateness and utility, and assumptions of variable inter-relatedness.

In addition, however, in all theories and research dealing with the life-span, there are certain assumptions and premises made regarding the adult being studied, the subsequent theory bases generated and the potential applicability of the theory. For purposes here, the author has developed a generic outline of 38 such assumptions and findings:[1]

a. Life phases unfold in stages and succession creating age linked periods of transition and stability throughout adulthood.
b. In each successive stage, certain life issues or adaptive tasks are internalized and become priorities of concern.
c. All apparent stabilizations are temporary, lasting 3-5 years.
d. Passing of time creates pressure on one's life structure to change.
e. People change their life structure repeatedly over time (an individual's external life situation and its internal meanings).
f. The forces created in change of life structure causes changes biologically, culturally (social expectations) and individually (one's conception of self and adult reality).
g. The changes which are made reduce dissatisfactions with outgrown limits of former life structure.
h. The changes in life structure are notable events in life and usually include a fore-dream or vision of future structure and a mentor from whom advise is sought to make the change.
i. There is potential the changes are growth producing for the individual but may include non-growth crisis.
j. Each stage change involves the person;is marked by a form of vulnerability and potential.
k. The future stage is substantially different with new tasks, ideas and perceptions to be learned successfully.
l. Internally, the change is unsettling. Regression, accomodation and integration of change characterizes "passage".
m. There is always a chance that a person may try to avoid change and thus influence further movement/shift or change.
n. For each person, there is a different social reality and means of "passage".
o. In each "passage" there is an adjunct personality reorganization which provides a qualitatively different frame of reference for the experience and pattern of perceptions, emotion and thought.
p. Change is not culture bound but humanly inherent.
q. The adjacent psychological developments are interrelated with moral reasoning, motivation, interpersonal behavior, and cognitive style.
r. The interrelated subjective pattern of behavior represents a holistic and hierarchical integrations of thought.
s. People go through stages in order; people at lower stages cannot understand the reasoning, language, perceptions or personality dynamics of those at higher or older stages.
t. When going through "passage" to the next stage, the change occurs through reconciling discrepancies between expectations and perceived events, but are only solidified as reality in their use. Not meeting expectations could create crisis.

[1] Vivian McCoy's (1978: 16) and Rita Weatherby's (1976) research were key source data.

u. It is necessary for a person to try out new roles, expose oneself to new reasoning and behavior of next state in various transitional acts. There are series of small changes which create new character structure.

v. Development can stop at any level and few adults reach the higher growth stages in any developmental sequence before changing again.

w. The stages are inherently internally bound events which guide individual thought processes and life directions. They are the key to individual life perceptions.

x. Change in biological structure not related to psychological or social structure creates internal crisis.

y. The external forces of social, culture, philosophy, family and other interests influence each person differently and subjectively creating uniqueness.

z. In each change, vulnerability elicits new tolerances of oneself.

aa. For growth to occur, challenges need to be slightly greater than the individual's present coping abilities so that "stretching" occurs but is not overwhelming so that a person retreats from the change.

bb. Forced change, out of time, can produce crisis, as in death or health occurances.

These assumptions and premises appear to underscore research in life-span development with adulthood: though not inclusive, they represent a substantial portion of the theoretical framework of this research.

For the adult education researcher, the methodology of life-span researchers has complimentary social science application. Most of the limitations so often considered when conducting research with adults in adult education are repeated throughout the life-span developmentalists research. The inductive process which generated the bases of life-span research is parallel in form to the "field ground" research approach. However, rather than generating hypothesis for further research, life-span theorists have identified basic theory. The theory is in need of testing and replication. The relationship of suggested variables to the life-span tasks to be learned, life structure changes or other variables related to personality development are in need of testing to ascertain descriptive relationships/associations and/or cause and effect conditions.

Many of the questions raised by outside researchers have also been raised by the life-span theorists themselves. Are the concepts universal in cultures, socio-economic-classes, and with single persons? Are the influences which precede others in our understanding of self in the life cycle? Since it is hypothesized as true that a person cannot understand a life cycle if they haven't gone through it or are experiencing, can only older persons work with persons going through crisis? or in counseling? How significant are internal events - emotions and perceptions-to fully understanding self in development? How significant are external events - war, economics, social class to being "on time" in cycle? What are the significant inter-relationships, sameness, between theories or are they different? What are the potential necessary psychological and cognitive influences to life without crisis? What effect do societal norms have on fulfillment of life cycle? in this age? Does a person have to be socially and psychologically adjusted to achieve life cycle? What effects do handicaps have on achieving life cycle conditions? If life cycle is deterministic. isn't it really a declaration that environment controls man rather than the philosophy that the individual attains his/her own potential, as has been interpreted in the theories. These questions represent only a few problem areas presently being considered by researchers.

There are, however, other considerations for adult education researchers. Eight areas of research concern have been identified here: assessment and evaluation, program planning, participation, self direction, adult self concept, instruction, learning, motivation are reviewed while others are identified.

Assessment and evaluation are basic practices in adult education. If the life-span theory is correct, what the assessment or evaluation of programs or instruction may be producing are age related interest/inventories, evaluations results may represent whether the related goals of an age have been achieved rather than an objective evaluation of instructor, course, program or content. Persons 20-30 year olds are critical of non-functional theory because of their ideal work ethic while the 40-50 year olds are critical of only functional/practical approach to content since they are seeking reasons why and theory to support what they are doing. Persons 30-40 are most ready for change but are seeking certain directed goal changes they have identified. Validity and reliability of assessment tools need to be sought from varied age groupings. Evaluation measures need to be analyzed for the impact of age related linkages. Outcomes need to be assessed by age and life structure concerns.

Program planning strategies for groups of varied age persons should be reanalyzed. Homeogeneous adult age programming is the direction being considered by many practitioners. Verification studies of which goals are sought by selected ages need to be considered. Questions have reoccured that multiage groups of age are the wise approach in instructional planning: The specific age group which does not seem compatible with other ages are the 25-35 year olds who are seeking very practical content: Other ages 20-25 and 35-65 years seem compatible in instructional settings.

Participation has been the force of research in adult education. Consideration of growth and remedial goals have been studied independent of age. Age related demographic data thought "useless" in late 1960 has now a tremendous impact on participation via goals sought by learners at various ages. The nature of programming to meet these needs must vary with the additional concern of the nature of the content. Growth learner purposes are said to need minimal instructional/clientele involvement while remedial learner purposes need a great deal of instructional/clientele involvement. There is a relationship between expected life structure and tasks completed by participants in these two content areas. Rationale for participation has only been dealt with superficially to date by adult educators via Houle, Soloman, Rivera and Johnston. In fact what Tough may have uncovered may be more related to age related needs to learn tasks than to general adult education course planning. In fact the instrumental/expressive research of Londoner and Hiemstra may be closer to age related considerations than any others.

Adult self concept is now through life-span research, understood to be quite changeable and lacks the stability thought by many researchers. The strength of the nature of self concept as a variable which determines the capacity to learn and the potential level of achievement attained has been confirmed. Self directedness and the strategies implied in cognitive field independent theory may alter throughout life with various content. The way in which the adult educator works with adults, especially those in the less stable years, greatly influences learning, change, and continued participation.

Instructional strategies methods and climate for learning may influence adult learner's ability to establish their new life structure. Working with adults daily on a one to one basis, the underlying concerns in learning life tasks and new life styles are evident. Classrooms need to be an open relaxed place in which learners can take risks in expressing a new perceptions and "trying on" of new roles and attitudes. It seems that learners returning to classrooms rather than learning on their own have sought a place to test their new life perceptions in addition to the content.

Learning and motivation are placed in a new light by life-span research. Motivation which is intrinsic emerges from the needs of individuals to cope with life cycle concerns. The old mundane concept of motivation is out: the new awareness of motivation relates to the ever present life tasks to be learned. Extrinsic motivation will always conflict (as Getzel and Thelen expressed in the Social System Model) with the intrinsic motivation when not related to new life tasks to be learned. The forces of what is to be learned are so vital that the learner will create new perceptions or pattern to accomodate them. The role of Houle' three typology of learners, i.e. goal, activity, and learning orientations to learning, are recognized now as age related concerns. Learning will be influenced by the degree to which life tasks are dealt with successfully. Persons seeking remedial learning goals recognize the implications of missing an age related learned task.

Other areas of consideration for adult education researchers include the relationship of life-span research and theory to cognitive styles, ego development, volunteerism, minority education, race and ininfluences on life task completion, women education, social conditions for learning, social values, methods, attitude formation, individual and group influences on learning, among others.

In 1968 Burton Krietlow asked adult educators the nature of the characteristics of personality change in the adult years and the factors which influence change patterns. Today we have a great deal of evidence which helps us answer this question. However, there are still many questions to be answered about relationship, associations, and cause and effect relationships between variables.

It is this researcher's opinion that the field of life-span developmental psychology have moved the theory of the field of adult education ahead twenty years. In order to fill this gap in time, research is needed, literature interpolating the findings of life-span research is needed and study is needed via classroom analysis. What are the influences of age related concerns to evaluation results? What are the influences of age related interests to participation or to self concept? It is within the answers to questions like these that life-span development psychological theory and research will have its greatest impact on adult education.

References

P. B. Baltes and L.R. Goulet, (eds.) Life-Span Developmental Psychology: Research and Theory. New York: Academic Press, 1970.

Ledford J. Bischof. Adult Psychology. New York: Harper and Row Publ., 1976.

Arthur Chickering, "Adult Development - Implications for Higher Education" in Conference Proceedings: Designing Diversity '75, 2nd National Conference on Open Learning and Non-traditional Study June 17-19, 1975. Lincoln, Nebraska; University of Mid-America 1975.

Counseling Psychologist. Volume 6, Number 1 Counseling Adults

Nancy Daton, "Normative Life Crises: Academic Perspectives" in Life-Span Developmental Psychology: Normative Life Crises. N. Y.: Academic Press, 1975.

Alan B. Knox, "Adult Development and Learning: Implications for Helping Adults Learn," An unpublished paper delivered at Adult Life Cycle Conference Oct. 18-20, 1978, Breech Training Center, Overland, Park, Kansas.

Vivian R. McCoy, Colleen Ryan and James W. Lichtenberg. The Adult Life Cycle Training Manual and Reader. Adult Life Resource Center, Division of Continuing Education, University of Kansas, 1978.

John R. Nesselroade and Hayne W. Reese (eds.) Life-Span Developmental Psychology: Methodological Issues. New York: Academic Press, 1973.

Rita Weathersby, "A Synthesis of Research and Theory on Adult Development: Its Implications for Adult Learning and Post Secondary Education". Harvard Graduate School of Education, 1976.

OPINIONS OF HEALTH CARE PROFESSIONALS CONCERNING PATIENT EDUCATION FOR THE INPATIENT HOSPITAL POPULATION, WITH IMPLICATIONS FOR PROGRAM PLANNING & STAFF DEVELOPMENT

Rosemary S. Caffarella, Ph.D.
University of Maine at Orono

Purpose of the Study

The purpose of the study was to investigate how health care professionals, collectively and by professional speciality groups, in Maine community hospitals viewed patient education for the hospital inpatient population. The following issues were explored: 1) importance of patient education and selected content areas; 2) roles deemed appropriate for health care professionals, patients and their families in the planning and conducting of patient education activities; and 3) judgments about the organization of patient education activities. The professional groups included in this study were physicians, nurses, allied health professionals, and patient education staff.

Patient education, for the purposes of this study, is defined as a process whereby patients and in some cases their families: 1) receive information about specific health problems; 2) learn the necessary competencies to deal with the health problems; and 3) develop accepting attitudes toward the health problems and resulting changes in life style.

Review of the Literature

Patient education for hospital patients is recognized as an important component of adequate patient care by both health care providers (American Hospital Association, 1975; Egbert, Battit, Welch and Bartlet, 1964; Levine, 1974) and the patients themselves (Alt, 1966; Houston & Pasanen, 1972). Patient education programs involve a wide variety of educational activities including: 1) individual instruction; 2) formal classroom teaching; 3) telephone taped messages; 4) video-tape instruction; and 5) physical and occupational therapy sessions (American Hospital Association, 1976; Redman, 1976; U.S. Dept. of H.E.W., 1976). The majority of the activities have been focused primarily on patients with chronic illnesses. (American Hospital Association, 1976; U.S. Dept. of H.E.W., 1976).

Physicians, nurses, allied health professionals and patient educators have all been involved with patient education activities (American Hospital Association, 1976; Etzwiler, Tyrell, Ulrich, Wrynt & Hirsch, 1972; Pohl, 1963; Redman, 1976; Simmons, 1976). Members of each professional group have played a variety of roles in these programs as directors and/or members of interdisciplinary teams (Bernheiner & Clever, 1977; Etzwiler, et al, 1975); prescribers of patient education programs (Jamplis, 1975; and U.S. Dept. of H.E.W , 1976); teachers of patients (Canfield, 1973; Pohl, 1963; Redman, 1976); and program coordinators and administrators (American Hospital Association, 1969). There is little agreement among professional groups as to which group

---

250 Aubert Hall, University of Maine at Orono, Orono, Maine 04469.

should have primary responsibility for hospital patient education activities (Canfield, 1973).

The patient's role in patient education activities is also viewed in a number of ways. Patients are seen primarily as active participants in the total educational process (Etzwiler, et al, 1972; Monaco, Salfen & Spratt, 1972) or as recipients of preplanned educational activities (U.S. Dept. of H.E.W., 1976). The family member's role in patient education has not been well defined.

Methodology

The primary data for the study were generated from a mail survey. Twenty-two, approximately one-half, of Maine's community hospitals were selected as a stratified random sample. Equal proportions had and did not have formal patient education programs. All physicians, allied health professionals, and administrators, and one-third of the nurses from these hospitals and patient education staff from all of Maine's community hospitals were surveyed by mailed questionnaire.

The survey instrument consisted of closed ended, multiple choice questions. After pretesting the instrument, three separate mailings were distributed. One thousand, three hundred and eight questionnaires were sent in the original mailings. Seven hundred and sixty-two were returned for a total return rate of 59%. Of the returns, 720 were usable, for a usable return rate of 56%. The number of usable responses did provide reasonably proportional representation of all five professional groups. The patient education staff and hospital administrators had the highest rate, 87% and 82% respectively, of those surveyed. These were followed by the allied health professionals (69%), nurses (58%), and physicians (49%).

The data generated from the survey were presented in several ways. First a display of the data showed how all professionals, collectively and by subgroups, responded to each question area. The data were then analyzed using Chi-square tests of independence to ascertain the significances of differences in judgments among the professional subgroups on each of the issues in question. Finally, the data were analyzed again using Chi-square tests of independence to ascertain how responses varied in relation to four additional factors (size of hospital, whether the hospital had a formal patient education program, whether respondents had experience with formal patient education programs, and respondents' training in patient education). A significance level of .05 was used in the Chi-square analysis.

The findings and conclusions of this study are generalizable to Maine community hospitals. Although similar findings might be expected from other settings, the current study included only Maine hospitals and the sample was chosen to represent only that population.

Review of Findings

Professionals overwhelmingly agree that patient education is an important component of patient care. Thirty-five percent of the total respondent group believed patient education to be extremely important and another 6.5% believed it to be moderately important for some patients. Forty-four percent believed

365

it to be extremely important and another 10.8% moderately important for all patients.

A variety of content areas were judged by professionals to be appropriate to include in hospital patient education programs. All professionals rated the most important areas as teaching patients to administer their own treatment (86.1% extremely important and 11.8% moderately important), teaching patients self care independent living skills (85.3% extremely important and 12.7% moderately important), and explanation of diagnosis and treatment of the health problem (79.4% extremely important and 15% moderately important).

No one professional group was given, by a majority of the total respondent group, an overall responsibility for planning and conducting patient education activities. Only one-fourth to one-third of the total respondent group judged that four of the groups (patient education staff, physicians, nurses, or allied health professionals) should have this overall primary role. However, each group, except for the hospital administrators, was indicated by the total respondent group as having primary responsibility for planning and conducting of one or more selected content areas.

Some of the professional groups described both their own primary roles and primary roles of other professional groups in the planning and/or conducting of patient education activities somewhat differently than did other groups. Patient education staff and physicians, more frequently than all the other groups, indicated that their own professional role should include primary responsibility for planning patient education activities. Nurses and allied health professionals also indicated more frequently, than all but the patient education staff, that their role should include primary responsibility for both planning and conducting patient education activities.

The patient education staff most frequently accorded to nurses a primary role in conducting patient education activities. The physicians less frequently than all of the other professional groups accorded to groups, other than themselves, primary responsibility for patient education activities. This was especially so in comparison to the patient education staff and the nurses. The nurses less frequently than other groups indicated that physicians should have primary responsibility for both planning and conducting patient education.

A large percentage of the professionals believed former patients (84%) and families of present and former patients (75%) should be involved in both planning and conducting of patient education activities. There was agreement that the involvement of both groups should be dependent for the most part on the health problem of the patient.

A large number of the professionals (approximately 80% of the total respondent group) believed that patient education programs should consist of an intentional combination of formal and informal activities. Only twelve percent of them believed that the activities should be principally formal, and only 8% indicated that should be principally informal. Among physicians there was a large minority (20.1%) who believed the activities should be principally informal.

About half of the professionals believed that a separate education department would be best to coordinate an organized patient education program. A minority, however, of all of the professional groups except the allied health professionals indicated that the nursing department would be better able to do this.

Approximately three-fourths of the total respondent group judged that it was feasible to develop or expand organized patient education programs in their hospitals. Lack of staff time and a person to coordinate patient education activities were given by the professionals as the two major factors that impede or prevent the development of such programs.

The professionals' experience with formal patient education programs had the greatest effect on the way respondents answered three questions (content, roles of professionals, and feasibility of developing organized patient education programs). A higher proportion of professionals with experience than those without experience endorsed: 1) the inclusion of specified content areas in patient education programs; 2) having health care professionals involved in both planning and conducting patient education activities; and 3) developing or expanding organized patient education programs in their hospitals. Three additional variables (size of hospital, whether hospital had a formal patient education program, and respondent's training in patient education) had only minimal effect on the way respondents answered the questions.

Conclusions

The major conclusions of this study refer to health care professionals who work in Maine community hospitals.

1. Virtually all health care professionals in community hospitals believe that patient education is an important component of patient care. Patient educators and nurses generally believe it is important for all patients, while physicians, hospital administrators and allied health professionals are divided, some seeing it as important for all patients while others see it as important for some patients but not for all. A very small minority of physicians are doubtful about its importance as a component of hospital care.

2. There is general agreement among community hospital health care professionals that adequate patient education requires a hospital to develop a program which is comprehensive in that it:

   a) includes both formal and informal elements intentionally developed and integrated;
   b) incorporates significant contributions from each profession, i.e., physicians, nurses, hospital administrators, patient educators, and allied health professionals (physicial therapists, occupational therapists, pharmacists, social workers, dietitians, and others). Physicians, nurses and allied health professionals should make the greatest contribution to patient education activities, especially in regard to the operation of those activities.

3. At least eight general areas of content are agreed upon by members of the principal health care professions as important to include in a hospital's program of patient education. They are:

a) explanation of diagnosis and treatment;
b) teaching patients to administer their own treatment;
c) teaching patient self care independent living skills;
d) teaching about short and long term life style adjustments;
e) teaching about appropriate community resources;
f) teaching about general preventive medicine;
g) teaching about financial management of the health program; and
h) orientation to hospital facilities and services.

4. In general, each group of community hospital health care professionals ascribes a greater role to its own group in planning and execution of patient education than do other professional groups.

5. In general, health care professionals in community hospitals believe that the involvement of former patients and families of present and former patients in planning and conducting patient education activities should depend on the health problem of the patient.

6. There is general agreement among the health care professionals in community hospitals that no insurmountable problems exist to prevent the development or expansion of organized patient education programs. There are, however, several factors which are slowing the development of patient education programs. Principal inhibiting factors are lack of: a) staff time to plan and conduct and b) personnel to coordinate patient education activities. Other inhibiting factors include the cost of patient education, lack of third party payment, and lack of acceptance by physicians of patient education.

7. In general, health care professionals in community hospitals who have had experience with formal patient education programs have more positive reactions to patient education than those who have not had experience with this.

Implications for Practice

Patient education should become a total hospital community effort and not delegated to a separate patient education staff. Thus, patient education will need to be a part of each health care professional's job. Hospitals will need to offer continuing professional education programs on patient education in order to train existing staff. Also, changes in curriculum will be needed in most schools that provide preprofessional training for health care professionals to include patient education. This should include a basic knowledge and skill base in: 1) adult psychology and learning; 2) the teaching-learning process; 3) methods of teaching; 4) evaluation procedures; and 5) materials on patient education in general.

In order for patient education to become a total community effort, health care professionals in hospitals will also need, in most cases, to change their own role perceptions and the perceptions they have of other professional groups. These needed changes in role perceptions are likely to involve a period of role conflict both within and among professional groups.

A patient education coordinator will need to be appointed in order for this community effort of professionals to be integrated and function effectively. This role calls for a patient education coordinator (or in large hospitals a patient education staff) not necessarily with a traditional health field background, but both knowledge and skills in the fields of education, community organization, and management. Within this framework, the patient education coordinator or staff will then become the manager and not primarily the conductor of patient education activities.

Implications for Research

The roles of hospital health care professionals in the implementation and coordination of patient education activities should be further investigated for both theoretical and practical application. Examples of questions that need to be answered are: 1) Is it feasible in terms of present resources to have patient education be a part of the role of existing hospital professional staff? 2) Are hospital professional staff members willing to plan and execute patient education as part of their job responsibilities? and 3) Which hospital professional staff units or combination of units are the most appropriate to assume responsibility for planning and executing both general content and specific program areas?

Similar studies should also be executed to ascertain the opinions of health care professionals towards hospital patient education for other than the inpatient population, e.g., outpatients, emergency room patients and the community-at-large. Studies should also be completed that investigate professional opinions about patient education for other institutions and patient populations, e.g. general office practice, community health agencies, mental health institutions.

As the study was basically exploratory and descriptive in nature, it did not provide an indepth view of the various question areas, e.g., roles of patients and families in patient education. A great deal more related research needs to be done in those areas.

Summary

The most exciting and challenging conclusions of the study centered on three areas. First patient education is recognized by professional hospital personnel as an extremely important component of patient care for hospital inpatients. Second, both the concept and day to day operation of patient education for hospital inpatients needs to be broadened to include both the formal patient education activities and the informal or incidental activities. Third, the study calls for a re-examination by the professional community on how patient education activities for hospital inpatients should be both conducted and managed.

Reference List

Alt. Patient Education Program Answers Many Unanswered Questions. Hospitals, 1966, 40, 76-78.

American Hospital Association. Overview of AHA Patient Education Project Results. Chicago: American Hospital Association, 1976 (mimeographed).

____________. A Patient's Bill of Rights. Chicago: American Hospital Association, 1975.

____________. *Strategies in Patient Education*. Chicago: American Hospital Association, 1969.

Bernheimer, E. & Clever, L. *The Team Approach to Patient Education: One Hospital's Experience in Diabetes*. Atlanta: U.S. Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, Bureau of Health Education, 1977.

Canfield, R. E. The Physician as a Teacher of Patients. *Journal of Medical Education*, 1973, *48*, 79-87.

Egbert, E. D., Battit, G. E., Welch, C. E. and Bartlett, M. K. Reduction of Postoperative Pain by Encouragement and Instruction of Patients. *New England Journal of Medicine*, 1964, 240, 825-27.

Etzwiler, D., Tyrell, M., Ulrich, M., Wrynt, J., and Hirsch, A. Patient Education in Community Hospitals. *Minnesota Medicine*, 1972, *55*, 33-37.

Houston, D. S., and Pasanen, W. E. Patients' Perceptions of Hospital Care. *Hospitals*, 1972, *46*, 70-74.

Jamplis, R. W. The Practicing Physician and Patient Education. *Hospital Practice*, 1975, *10*, 93-99.

Levine, P. Efficacy of Self-Therapy in Hemophilia: A Study of Seventy-Two Patients With Hemophilia A and B. *New England Journal of Medicine*, 1974, *291*, 1381-84.

Monaco, R., Salfen, L., and Spratt, J. S. The Patient as an Education Participant in Health Care. *Missouri Medicine*, 1972, *69*, 932-33.

Pohl, M. A Study of the Teaching Activities of the Nursing Practitioner. Ph.D. dissertation, Columbia University, 1963.

Redman, B. *The Process of Patient Teaching in Nursing*. St. Louis: The C. V. Mosby Company, 1976.

Simmons, Jeannette. An Overview of Patient Education. In *Patient Education Workshop: Summary Report*, 19-26. Atlanta: U.S. Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, Bureau of Health Education, 1976.

U.S. Department of Health Education & Welfare, Public Health Service, Center for Disease Control, Bureau of Health Education. *Patient Education Workshop: Summary Report*. Atlanta: Bureau of Health Education, 1976.

William F. McMahill Ph.D., University of Missouri
Ralph C. Dobbs Ph.D., University of Missouri

PARTICIPATION TRAINING: CHANGING SELF-PERCEPTION

This research study was designed to measure the value of a participatory training model in changing the self perception score of adults who were involved in selected learning experiences. The model was the K411 participatory training plan in Adult Education. A major portion of the model was developed and perfected over a period of ten years at the University of Missouri-Columbia campus.

The scores in this study were derived from a semantic differential scale which utilized adjective pairs to measure the variables under test conditions.

The K411 model offers a setting in which group skills and concepts of participation training are taught by a) the practice of feeling free to assert individuality within a corporate group which protects the dignity and respect of each group member, and b) emphasizing the process of group interaction rather than content.

One of the early participation training models was developed by Bergevin and McKinley. The K411 model in this study relies heavily on the Bergevin theory. Emphasis is placed on group settings with minimal regard for the content.

Rationale of the Study

This study was based on a concern for testing what perception changes, if any, could be brought about through the course, "K411 Seminar in Adult Education." The researchers felt that an improved self concept would aid members in practicing interaction skills and improving decisions.

To further justify the importance of this investigation consider the daily need that exists for competent men and women to serve on committees which are formed to make decisions in business, industrial firms, educational institutions and other organizations.

"The prevalence of group, instead of individual action is a striking characteristic of management organization in the large organization" (Gordon, 1971). Gordon concludes that in our culture today the individual still has more importance than the group.

One can hold however, that because our society is becoming increasingly more complex, it is less appropriate for individuals within organizations to make unilateral decisions. Perhaps research should be conducted which will lead to an improved system of decision making.

General Hypotheses

Participation training represents a process that teaches adults how to work effectively in group situations. The successful results experienced by the participants as they practice group interaction skills can be measured and identified as an improvement in self concept.

(FOR REPRINTS: William F. McMahill, Ph.D. 1020 Engr. Bldg. Univ. of Mo.
Columbia, Missouri 65201)

Assumptions

The assumptions identified, adopted, and related to the hypotheses are:
1. A careful use of a semantic differential scale using paired-adjectives arranged at opposing poles in a sufficient way to measure change in self perception brought about through involvement in participation training.
2. The adjective-pairs chosen to build the measuring instrument used in this study describes attributes of self perception that affect the individual's understanding of one's relationship and responsibility when interacting with a group during decision making situations.

REVIEW OF THE LITERATURE

Participation training was developed from a felt need for the adult learner to be included in the learning process. It is a process of open communication and personal action and interaction (Dobbs and Pry, 1974).

Learning results can be improved through the use of participation training. Participants develop a level of interpersonal closeness which enables them to improve their understanding of human relationships, group skills, and the process of communication (Otto, 1967).

Participation training is reality based and establishes a working environment where members successfully formulate plans to achieve mutually agreed upon goals. It is a method of "learning how to learn" (Dobbs, 1973).

The Bergevin model, brought about personal growth in creative self-expression; acceptance of personal responsibility, cooperative spirit in a common task, improved communications, self-examination, self guidance, and sensitivity to individual needs (Bergevin & McKinley, 1958).

Training in group skills improves the sense of worth of participants. Stress and strain in group interactions are expressed with less fear of reprisal (Castle, 1965). Members with strong affiliation motives seek satisfaction rather than influence (Wood, 1972).

Training in how to be effective members of groups can sensitize leaders to group needs and make group objectives more attractive to its members (Tead, 1935).

Groups produce more effectively when observers view and report on the group's process of feedback, and self evaluation (Jenkins, 1948).

The above citiations are only a few of the studies which represent an increased interest in the growth of the adult learner and decision making.

METHODOLOGY

The non-equivalent control group design was used to ascertain the outcome of employing participation training as a process to change self perception. Both a criterian (n=125) and a control group (n=128) were used. To study the long term effect of this social learning process, a longitudinal study (n=206) was also conducted.

Responses were collected on a 24 semantic differential scale during pre-test, post-test and longitudinal administrations. The data collected from these scales were grouped to form three composite factors - dependent variables. Each factor represented how participants viewed themselves in learning situations.

The statistical models used to analyze the data were factor analysis, coefficient of congruency, analysis of variance of one-way, two-way, and repeated measures.

The assignment of participants to one group or the other was assumed to be random and under the control of the experimenter. The control group consisted of graduate students enrolled in the college of education. Each class was encouraged to do so as a total group. The experimental group was made up of students enrolled in the K411 Seminar on Participation Training.

Five extraneous variables were noted. The experimental and control data were collected in a period of 18 months. Since the treatment period was only 90 days, maturation of respondents was assumed to be minimal. The collection instrument was not unusual to the participants.

The longitudinal portion of this study consisted of identifying and contacting participants who had completed the SD scales during the K411 seminar and who had completed this seminar 6 months prior to the start of this study. Of these 401 participants, 295 were located and 206 completed and returned the information.

Analysis of Data

The analysis of the data employed a statistical design capable of using the technique of the principal factors solution to factor analysis. This resulted in isolating three common factors by using an Eigenvalue cut off of 1.80. These factors represent separate and defined semantic differential spaces titled "composite factor scores" rather than being represented by 24 separate scores from the semantic differential scales.

Coefficient of Congruence

This factor stability test used "composite factor scores" from pretest and post-test responses of the experimental group. The results of this test predicted factor stability coefficients on all three groups. The stability of a factor to remain in the same grouping when comparing pre and post-test data is important when making a choice of several solutions in the context of Varimax method of axis rotation.

Analysis of Variance

In order to compare the experimental with the control group a two-way analysis of variance was used. This was to insure that the gain, if any, could not be disregarded due to the effect of extraneous factors such as history, maturation, or other variables affecting the internal validity. Tests were made for similarities and differences between the two groups.

The analysis of data for the longitudinal component incorporated a randomized complete block design with repeated measures. This statistical model is used when data are arranged in "R" rows that stand for "R" participants who are measured just once under each of the "C" conditions that define the columns.

Data were collected and analyzed to confirm or reject the following: 1) the participants in the experimental group will experience a change in their self perception as to their behavior in learning situations or group activities, and 2) the participants in the longitudinal portion of this study will have continued to experience a change in their self perception as to their behavior in learning situations or group activities.

RESULTS

The results indicates that participation training does change the self perception of participants. The experimental groups showed significant gains in mean score response related to self concept (See Table 1).

Table 1 Summary of ANOV Pre-test VS Post-test, Experimental Group

Variables	Variations Tests	Probability	Null Hypothesis	
			Accepted	Rejected
1	Pre/Post	.0012		x
2	"	.0001		x
3	"	.00014		x

In the longitudinal portion of this study respondents' mean score did not change significantly between post-test and longitudinal administrations. Therefore, participants increase in self concept brought about by the experimental treatment remained essentially unchanged over the longitudinal period which averaged 2½ years. Unsolicited letters from the longitudinal group claimed their improved self concept aided them when working in group situations.

The major contributions made by this research are the use of: self concept as a dependent variable in group interaction; graduate students in a campus environment; sample sizes of 125, 128, and 206; time spans of 90 days and 2½ years between test administrations; and a longitudinal component. Also a pictorial three sided model was developed to express the group process in terms of self concept and role responsibilities of group members. This model is titled, "Self concept/assertive model in participation training." (See Figure 1).

Using pre and post-test responses of the experimental group, coefficients of congruence values of 0.98, 0.97, and 0.98 were calculated. These coefficients predict the probability of factor groupings to be identical in both pretest and post-test responses. Stability coefficients range from +1.0 to -1.0 indicating a perfect positive and negative relationship, respectively.

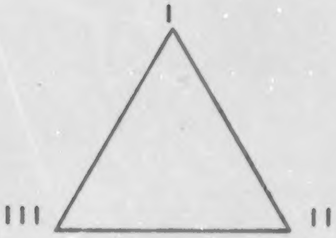
Each composite factor is represented by a pool of adjectives from the SD scales. These adjectives were suggested to describe participants' behavior related to their assertiveness to project themselves into group interaction to benefit, 1) self, 2) other members, or 3) group support. This theory of interaction style was used to develop an interaction model. The three dependent variables were titled to describe the assertiveness of group members to interact in the group process. The participants' self-perception of being more assertive in projecting themselves into the inneraction to:

Variable I	Strengthen group bonds to form a more unified whole
Variable II	Increase the participation of other members in the group interaction,
Variable III	To express their own views.

The model is as follows:

Figure 1

Self-Concept/Assertive Model for Participation Training



I Self-for-Group

II Self-for-Others

III Self-for-Self

In comparing mean score gains in pretest responses for each dependent variable, as shown in Table 2, no significant difference was found between the experimental group and the control group. However, the post-test responses were found to be significantly different and that the gain in mean scores was significantly greater for the experimental group as compared to the control group.

Table 2 Summary of ANOV Similarity Test Experimental VS Control Groups

Variables	Probability		Null Hypotheses	
	Time-1	Time-2	Time-1	Time-2
1	.602	.0001	Accepted	Rejected
2	.508	.0001	"	"
3	.646	.0001	"	"

(Note: Time-1 is Pretest; Time-2 is Post-test)

Scheffe's method for pairwise comparisons was used to determine mean score gains for each composite factor between pretest, post-test and longitudinal responses. The results on the longitudinal study are represented in Table 3. A significant gain was found between the pretest and post-test mean scores; but no significant gain was evident between the post-test and longitudinal test scores.

Table 3 Pairwise Mean Scores ANOV, Significance of F-Values for Differences in Means as a Function of Time Between Tests

Variables	Time of Tests	Singificance Levels	
		.05	.01
1	1-2	yes	yes
2	1-3	yes	yes
3	2-3	no	no
1	1-2	yes	yes
2	1-3	yes	yes
3	2-3	no	no
1	1-2	yes	yes
2	1-3	yes	yes
3	2-3	no	no

(Note: 1-2 is Pre/Post, 2-3 is Post/Longitudinal)

Discussion

The results indicate that participants' change in self concept was positive and at a level greater than .05 for each of the dependent variables. It can also be concluded that self concept and learned group skills are directly and positively related. Group skills are taught in the K411 Seminar, and semantic differential scales were used to measure the changes in participants self concept.

The largest mean gain score of the three variables was the variable self-for-others. This information may suggest that group members prior to having received this type of training spent little effort in supporting others in group encounters.

The conclusion that post-test and longitudinal test mean scores were not different was based on the results of a linear regression analysis. This analysis considered only the linear effect of the independent variables. To test for a nonlinear relationship, it would be necessary to use a covariant analysis of variance. If a quadratic relationship exists, it would be expected to show self concept increases beyond the participation training seminar experience as participants continue to practice newly learned behavioral skills. As these participants continue to encounter less supportive group environments, success in groups would diminish with a corresponding loss of self concept.

The conditions differed under which the experimental, control and longitudinal data were collected. The experimental groups completed the SD scales as a portion of the requirements of K411 Seminar. The control group was informed of the research project and 25% of the total chose not to respond. The longitudinal responses included those whose whereabouts were known and voluntarily responded.

Conclusions

Within the limitations of this study the following conclusions seem justified: 1) Students enrolled in graduate studies within an educational institution who participate in a participation training seminar can expect to develop a positive change in their self perception relating to roles and responsibilities associated with effective membership within a group. 2) The graduate students participating in a participation training seminar can expect their positive change in self perception relating to roles and responsibilities within a group to remain with them for a substantial length of time. 3) Those who learn group process skills can expect to be more supportive of group interaction situations relating to how they project themselves into a group, for their own personal interest; to draw others into a supportive role of group interaction; and to encourage all members to work toward building group bonds that lead to the group becoming a unified whole.

Implications

Implications of this research study are as follows: 1) Participants in a participation training seminar can expect their own change in self perception to aid them substantially in becoming an effective group member in group situations beyond the participation training seminar. 2) The decision making process using the participative management style can be facilitated if members of the involved management team have been properly trained in group process. 3) Participation training can improve communication skills.

The improvement will be more evident in the area of communication that involve understanding others point of view, where there are no right or wrong answers, and where responsibility for effective communication is needed by all participants. 4) Communications can be enhanced through the application of interaction skills taught in participation training seminars. 5) Committees, task forces, special study groups, and other activities requiring more than an individual response can be improved both qualitatively and quantatively through use of group interaction skills taught in participation training seminars.

BIBLIOGRAPHY

Bergevin P. & McKinley, J. Design for adult education in the church, Greenwich, Conn: Seabury Press, 1958.

Castle, J.D. The effects of participation training on the self-system. Unpublished doctoral dissertation, Indiana University, Bloomington, 1965.

Dobbs, R.C. & Fitchett, L. Participation training for the post-secondary teacher. Agricultural Education, 1973, 9, 46, 83.

Gordon, M.A., et al. The process of encounter; a look at personality, 1971. U.S. Dept. of Health, Ed. Research, ED 067597, CG 007533.

Jenkins, D.H. Feedback and group self-evaluation. Journal of Social Issues, 1948, 4, 2.

Otto,H. Depth unfoldment experiences. Adult Education of Research and Theory, 27, 2, 1967.

Tead, O. The art of leadership. New York, London: McGraw-Hill, 1935.

Wood, M.T. Participation influence, and satisfaction in group decision making. Journal of Vocational Behavior, 1972, 2, 389-399.

PIAGETIAN COGNITIVE LEVELS OF ADULT BASIC EDUCATION STUDENTS

BY
Barbara Rehmann Seguin
Adult Basic Education Instructor
Blackhawk Technical Institute*

Often in the beginning of my experience as an Adult Basic Education teacher, I found myself almost screaming in frustration at my students with statements like, "John, if you'd only stop and think, you'd know that you can't divide twenty dollars among four people and have each one get eighty dollars!" The student knows how to add, subtract, multiply and divide. Why can't he solve simple problems? And how dismaying it is when one has taught a student all of the beginning reading skills, to find that the student does not comprehend a word of what he or she is reading!

With time I learned that the student's inability to solve seemingly simple problems or to comprehend what he reads is not caused by laziness or an unwillingness to think. He just is not capable of thinking at that level of abstraction.

In my study of the literature related to intellectual development, abstract thinking, and problem solving, the work of Jean Piaget seemed to stand out as offering a large portion of the theory and experimentation in that area. His observations of the cognitive development of children seemed to show a structure of hierarchy of problem solving skills: a progression in the acquisition of abstract thinking abilities.

Study of the literature also seemed to show that severe cultural deprivation, cultural differences, emotional problems and physical and mental handicaps could delay cognitive development, at least into early adulthood. Since Adult Basic Education teachers work primarily with the disadvantaged, those of different cultural backgrounds and the handicapped, it seemed important for teachers to be aware of the levels of cognitive development in these students. By determining the various levels of cognitive development that exist within the A.B.E. program, and by analyzing the materials and methods presently in use in relation to those levels, I hoped to do a better job of teaching to the level of my students.

The questions I attempt to answer in this study are these:

1. At what levels of cognitive development are my students operating, as indicated by the test, "How's Your Logic?"

2. How do the materials and methods that are presently in use in A.B.E. programs relate to the cognitive levels of students?

Review of the Literature

Although very little Piagetian research has been done with adult subjects, the research with children indicates that in certain cultural groups, and among the disadvantaged and physically handicapped, development is delayed often into late adolescence. G. Gaudia (1972) in a study of American Indian, Negro, and white children found evidence of major differences in rates of acquisition of conservation between racial and social groups. In the rate of acquisition, Negro children (especially older Negro children) performed at a lower level of conservation operativity than Indian and white children. Dasen (1972), referring to earlier studies which showed a slower rate of development among Australian Aborigines, indicates that differences in rate of cognitive development are environmental rather than racial. Ina study of Aboriginal children who had been adopted by middle-class Europeans, he found that the rate of cognitive development of these children was almost identical to that of European middle-class children (Mogdil, 1974).

---

* For reprints, write: 1107 Harrison, Beloit, WI 53511

Barnabas Otaala (1973) attributed the slower rate of development that he found in children of his own tribe to certain tribal customs such as expecting strict obedience from children and discouraging them from asking any questions.

Studies of handicapped children have also indicated a slower rate of cognitive development. Nash (1969), Tobin (1972), Hughes (1969) and others have found significantly slower development in visually handicapped children. Furth (1970), Oleron and Herren (1961), and Bradshaw (1964) showed developmental lags of from two to six years in acquiring certain conservation concepts among hearing-impaired children (Mogdil, 1974).

Some studies indicate that cognitive development in the retarded may continue slowly at least into young adulthood. Steele (1975) in a study of students in educable mentally retarded classes (aged 13-16) showed that 26% of his subjects made developmental gains over a period of one year, with most of those moving from preoperational to concrete operational, or moving slowly within the concrete operational stage. Stephens, Miller and McLaughlin (1972) found that

> ...reasoning development proceeded in retardates, ages 16 to 20, although tempo was decelerated...differences continued between the operational thought of normals and retardates. In many instances retardates did not acquire the structures required of concrete logical thought until late adolescence or young adulthood. While the study provided a general indication that young adult retardates continued to make gains in reasoning ability, additional longitudinal data...are needed to determine the extent of this growth period (private communication; in Mogdil).

Cross-cultural studies have shown that there are great differences in cognitive development between industrialized and non-industrialized societies. Pierre Dasen concluded that some cultures do not nurture formal thinking at all, and that development is genrally slower in those cultures. Research seems to show that in the United States development is slower in the lower classes (Dasen, 1972).

It would seem, then, that the groups most often seen by the Adult Basic Education teacher--the disadvantaged, certain cultural groups, and the mentally and physically handicapped--are the groups most likely to have delayed development.

Research Design and Methodology

To determine the levels of cognitive development of my students, I gave them Dr. William Gray's test, "How's Your Logic?". Results of this test were compared with students' scores on the California Test of Adult Basic Education. Materials presently in use in our A.B.E. programs were reviewed to determine their suitability to students' levels of cognitive development.

Description of the instrument: Dr. Gray has been involved for many years in the development of a written test of intellectual development that would be practical for use in schools (Gray, 1970, 1973a, 1973b, 1974, 1975, 1976). He has attempted to construct written test items that are logically equivalent to specific tasks developed by Piaget and his collaborators. The instrument "How's Your Logic?" used for this study is a refinement of a prototype Piaget-based written test constructed by Dr. Gray and tested on a group of 168 students, aged nine to fifteen, in the Centerville, Ohio School District (Gray, 1973b).

Validity: Dr. Gray attempted to establish the validity of his written test by comparing the performance on the traditional Piagetian tasks. The results were only partially successful, with some items on the written test comparing "perfectly" with their equivalents in the Piagetian tasks, and others, particularly those involving proportional reasoning, comparing quite poorly. The "How's Your Logic?" instrument is an attempt to correct the inadequacies of the prototype and, although still in the experimental stage at the time of this writing, was, according to Dr. Gray, "lining up exactly as Piaget says they (the test items) should."

Reliability: Two versions of the instrument have been developed. Dr. Gray and his associates have given both versions to their subjects and have found that the items designed to test the same types of reasoning correspond.

Population Tested: Thirty-two Adult Basic Education students were tested. Twenty-four of these were students in my classes, most of whom suffer from mental, physical, or emotional handicaps. Eight were students in Black-Hawk Tech's Skills Center who were primarily disadvantaged or educationally deprived. Students ranged in age from 18 to 65.

Administration and Scoring of Tests: Tests were administered to the students in their respective Adult Basic Education classrooms by their teachers. Questions were read aloud and, where necessary (because of physical handicaps or because student had not learned to write), teachers wrote in the answers dictated by students. Students were given as much time as necessary to complete the tests.

The completed tests were sent to Dr. Gray for scoring. Each question was given a numerical score indicating the level of cognitive development shown by the student's answer to that question. A student's level of development was determined to be preoperational, concrete operational, or formal operational if he had at least 75% of the items correct at his highest level.

Limitations of the Study: The most obvious limitation of this study is the fact that the test instrument, "How's Your Logic?" is still in the experimental stage and may still have some problems. Another limitation was that the computerized scoring program which was to have been used to score the tests had not been completed at the time of this writing, so the tests had to be scored by hand. As a result students' cognitive levels were given in only the three broad categories of Preoperational, Concrete Operational, and Formal Operational. The computerized program would have given a more precise breakdown into sub-categories. There would seem to be a great different in ability between a person at the beginning of each developmental level and one at the transitional stage to the next level.

Results

Results of the rest "How's Your Logic?" showed students' developmental levels to be quite consistent with their classroom performance in the areas of comprehension and problem solving, but in some cases quite inconsistent with their scores on the standardized achievement test, The California Test of Adult Basic Education (T.A.B.E.). This helped to explain the difficulties some students had been having with comprehension. No student was found to be operating conistently at the level of formal operations, and many were functioning at the preoperational level and beginning concrete operational levels. Table A. shows students' developmental levels compared to their achievement levels.

Subject	Developmental Level	T.A.B.E. Grade Levels	
		Reading	Math
HM	Concrete Operational	not available	n.a.
CA	Concrete Operational	8.9	9.4
SL	Preoperational	4.1	4.8
VC	Preoperational	9.8	7.0
TB	Preoperational	3.8	4.8
PS	Concrete Operational	not available	n.a.
CK	Preoperational	1.0	1.0
KH	Concrete Operational	6.2	8.0
DM	Concrete Operational	4.4	4.0
GB	Concrete Operational	9.0	8.2
HC	Preoperational	0.0	0.0
HM	Preoperational	not available	n.a.
PO	Preoperational	7.7	7.0
DL	Concrete Operational	7.0	7.5
JP	Preoperational	0.0	1.5
SW	Concrete Operational	10.5	8.4
WP	Concrete Operational	9.5	8.1
MP	Concrete Operational	4.8	5.8
SC	Preoperational	5.2	5.0
CS	Concrete Operational	7.6	6.9
VD	Preoperational	2.5	2.0
HA	Preoperational	4.7	4.5
CL	Preoperational	2.8	4.0
WR	Preoperational	1.9	2.9
HD	Concrete Operational	7.4	6.9
FG	Preoperational	5.3	5.2
HC	Concrete Operational	8.3	6.9
AJ	Concrete Operational	4.3	4.8
FD	Concrete Operational	7.7	6.9
SS	Preoperational	6.2	6.1
EB	Preoperational	6.5	7.1
LL	Concrete Operational	7.7	7.5

Examination of Teaching Materials and Methods: Materials and programs of the major Adult Basic Education publishing houses such as Mott, Steck-Vaughn, and Laubach were reviewed in light of their suitability to the developmental levels of students. Workbooks, even at the beginning levels, were found to have very few pictures, perhaps in keeping with what is felt to be a more adult image. Lack of pictures, however, makes many of the exercises entirely verbal; a level of abstraction impossible for the person in preoperational or early concrete operations stages. The Mott workbooks, for example, in an effort to teach and use words having the same word patterns and sounds, are forced to construct sentences and stories that have little meaning or interest. They use words not often used in everyday conversation, or use ordinary words in unusual contexts. Sentences are often unnecessarily long and complex: i.e., "She squinted in the light of the lamp held in the hand of the man stepping over the threshold" (Mott, 300A, p.42). This sentence is contained in a story about Betsy Ross. In order to understand the story, the reader must bring to it a knowledge of American history and have the formal operational skills of inference and interpretation.

Math workbooks seemed to assume that the adult learner had already developed the concepts of seriation, ordering, matching, classification, reversal, time, speed and distance; and that it only remained to teach the math skills necessary to solve problems involving these concepts.

Adult Basic Education teachers were found to be relying primarily on programmed materials and individualized instruction as their classroom method. Some attempts had been made at small group discussion, but teachers reported that students were unwilling to participate; that students did not seem to have opinions to express (an indication of a preoperational or prelogical developmental level). Another problem was the difficulty of getting people at the same level together at the same time.

Discussion

More than half of the students tested seem to be thinking at the preoperational or prelogical level. This means that these students are likely to find it difficult or impossible to follow sequences of events, to "reverse" mentally, to "conserve" more than one aspect of a substance at the same time, or to have developed concepts of classification, seriation, time, speed, or distance. Such students have difficulty telling the sequence of events in a story, even though they may have a good reading vocabulary. They may be able to learn basic arithmetic skills, but will not understand how to apply them in everyday situations. They will have difficulty learning to tell time, count money, or measure. They may not be able to participate meaningfully in class discussions.

The rest of the students in these two programs seem to be thinking primarily at the level of concrete operations, although some of them may occasionally use formal operational structures. These students may not have developed the structures to be able to understand ratio and proportion problems, to be able to follow the form of grammatical constructions or logical arguments, or to be able to learn more advanced comprehension and mathematical skills. The implications for teaching should be obvious.

It is also important to note that some students were able to achieve fairly high reading and math levels, as measured by the California test, without having developed the cognitive structures necessary for comprehension and problem solving.

Materials and methods most commonly used in Adult Basic Education programs seemed to assume at least concrete operational levels of development on the part of the student, and sometimes even higher levels. As such they are beyond the comprehension of many adult students.

Conclusions and Implications for Further Study

Results of the test "How's Your Logic?" indicate that there is a wide range of cognitive developmental levels among the Adult Basic Education students studied. It would seem likely that a similar range of developmental levels exists among other Adult Basic Education students.

The disparity between grade levels as determined by the California Test of Adult Basic Education and the developmental levels shown by "How's Your Logic?" would seem to suggest that standardized tests of this type are not sufficient to assess reasoning abilities of students.

Adult Basic Education materials seem to be designed for the "normal" adult who has reached the formal level of development but who has not had the opportunity for education. Test results indicate that such a person might be relatively rare in A.B.E. classes.

A number of questions have been raised by this study, the primary one being whether it is possible to promote cognitive development through education, and what methods might be used in an attempt to do so.

A.B.E. materials more appropriate to adult students at lower levels of development must be designed: materials that would include more pictures and concrete materials without seeming childish.

Diagnostic tests are needed that would indicate whether the student understands concepts of classification, seriation, sequencing, time, distance, etc., since these concepts are prerequisite to any real learning of mathematics or comprehension of reading.

Another area that needs to be explored is whether cognitive development continues in adulthood among slow learners and disadvantaged groups. Studies of children in special education classes, such as that of Joe Steele mentioned previously, indicate that there is very slow growth in cognitive development in retardates in their late teens, and that as many as forty per cent of these children may have been placed in special classes for reasons other than retardation. Stephens, Miller and McLaughlin found that reasoning development proceeded in retardates aged 16 to 20 (Mogdil). If cognitive development does continue into adulthood, it might mean that some people who were unable to learn during the usual school years might be able to benefit from education at a later age. Longitudinal studies of adult cognitive development need to be done.

References

Dasen, Pierre R., "Cross-Cultural Piagetian Research--A Summary." Journal of Cross-Cultural Psychology, Vol. 3, 1972, pp. 23-29.

Flavell, John H., The Developmental Psychology of Jean Piaget. D. Van Nostrand Co., New York, 1963.

Gray, William M., "Children's Performance on Logically Equivalent Piagetian Tasks and Written Tasks." Educational Research Monographs, Dayton: University of Dayton (Doctoral dissertation, SUNY at Albany, 1970. Dissertation abstracts International, 1970, 31, 2736 A, University Microfilms No. 70-23, 450).

Gray, William M., "Development of a Piagetian-based Written test: A Criterion-referenced Approach." Paper presented at the annual meeting of the American Educational Research Association, February 1973a.

Gray, William M., "Development of a Written Test Based Upon the Model of Piaget." Final Report, September 1973b. University of Dayton, Project No. 2-E-052, Grant No. OEG-5-72-0044 (509), National Center for Research and Development.

Gray, William M., "The Integrated Cognitive Structures of EMH (Educationally Mentally Handicapped) Children." Paper presented at the fourth special invitational interdisciplinary seminar on Piagetian theory and its implications for the helping professions. Los Angeles, February, 1974.

Gray, William M., "An Integration of Piaget and Criterion Referenced Measurement." Paper presented at the annual meeting of the American Educational Research Association, Washington, April, 1975.

Gray, William M., "Confirmation of the Piagetian Logic of Exclusion and Combinations During Concrete and Formal Operations." Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April, 1976.

Mogdil, Sohan, Piagetian Research, A Handbook of Recent Studies. NFER Publishing Co., Windsor, Berks., 1974.

Otaala, Barnabas, The Development of Operational Thinking in Primary School Children. An Examination of Some Aspects of Piaget's Theory Among the Iteso Children of Uganda. Teacher's College Press, New York, 1973.

Steele, Joe M., "A Longitudinal and Comparative Look at Cognitive Development in E.M.R. Children." Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C., March 30, 1975.

SELECTION OF OLDER ADULTS FOR PARAPROFESSIONAL COUNSELOR TRAINING

Rebecca O. Johnson, Darwin D. Hendel, Keith D. Buckley
John S. Kleinbaum, Elizabeth A. Coles

University of Minnesota

Although there is much discussion concerning training programs for paraprofessionals (Alley, 1978, in press; Delworth, 1974; Nash, Lifton, & Smith, 1978), there is little discussion of training programs for senior paraprofessional peer counselors (Payne, 1977; Schmidt, 1976; Seguin & O'Brien, 1976; Waters, 1976). Neither is there discussion of the need for screening procedures for admission to such programs nor descriptions of instruments designed specifically to meet this need. Similarly, there are no appropriate instruments for measuring the effects of training programs for senior peer counselors. The present paper describes the development of an instrument designed to meet these needs and presents some preliminary data concerning the usefulness and psychometric characteristics of the Peer Counselor Questionnaire (PCQ).

It seems reasonable that the goal of any selection procedure should be to gain enough information about the candidates to make an accurate assessment of the extent to which they are likely to fit a precisely defined position (German, 1979). It seems equally reasonable to assume that this also applies to older adults who wish to become peer counselors. Since the research on measured personality traits has not been very helpful in delineating the helping personality (Brammer, 1977) we conceptualized peer counseling as requiring the facilitative qualities described by Carkhuff (1969) and the specific skills to match those qualities (Ivey, 1971).

Since the process variables of attitudes, qualities, and skills will be applied to the specific content of problems of seniors (age 60 and over), we assumed that an instrument which explicitly incorporates such content might provide even more accurate assessment of attitude and skill than a more general content. Ivey (1977, p. 300) points out that a person may do very well in one context, but not in another even though the attitudes and skills needed appear to be the same. Our final selection of content areas came from modifications of several different sources (Fast, 1970; Gaitz, 1975; Havighurst, 1972; Klein, et al., 1965; Pineo, 1972; Rose, 1972). The present study was designed to determine the extent to which the PCQ differentiated among groups of respondents and the extent to which the questionnaire was useful as a measure of training effectiveness.

METHOD: Subjects. Four groups of subjects were selected: 1) 41 adult students in an introductory level psychology course in night school at a large Midwestern University; 2) 12 adult students in a social work course in night school at the same university; 3) 12 professional counselors in a counseling department at the same university; 4) 15 seniors who applied for Fall Quarter, 1978, admission to the Peer Counselor Training Program.

Requests for reprints should be sent to:

Rebecca O. Johnson, 335 Nolte Center, 315 Pillsbury Drive S.E.
University of Minnesota, Minneapolis, MN 55455

Procedures. The professional counselors and the introductory psychology and social work students completed the PCQ at the beginning of Fall Quarter, 1978. Concurrently senior trainee applicants completed the PCQ as one component of the application process. Senior trainees also completed the PCQ at the last class of a 15-week training course designed to teach active listening and referral skills. The training course was later followed by 40 hours of supervised practicum distributed over a minimum of 10 weeks. Comparisons among the four groups were used to determine whether or not the PCQ would differentiate among the four groups. Comparisons between before and after training course responses to the PCQ for the 11 trainees who completed the program were used to determine the potential usefulness of the PCQ as a measure of training effectiveness.

Instrument. The format chosen for the process by skills by content interactive assessment tool was that used by Carkhuff (1969), in which the prospective peer counselor is simply asked to give a gross rating of several different representative and standardized counselor responses to standardized and representative client statements. We chose this format because in our opinion it is still the most efficient preliminary method to assess a person's ability to function effectively in the counseling/helping role.

The PCQ consists of descriptions of 23 situations which trainees might encounter in working with adults (e.g., client says, "I wonder why my children don't visit me anymore, after all I've done for them. Could it be because I don't have enough money to help them out?"): Five different responses (e.g., peer counselor says, "Sounds like you are really angry with your children.") are given for each situation and the trainee is asked to rate the quality of the response on a five-point Likert scale (1=very poor, 2=poor, 3=okay, 4=good, 5=very good).

The current version of the PCQ is a refinement of previous versions of the PCQ which differed in terms of the content of the situations, number and content of the five responses, and the response formats. The situations used in the present PCQ dealt with the topics of loneliness, grief and death, health, sex, relationships with children and other family members, and the expression of emotions. The situations were developed from interviews and questionnaires administered to older adults and to professionals working with older adults.

Analysis. A one-way analysis of variance (ANOVA) was used to compare the four groups' responses to each of the five responses to each of the 23 situations described on the PCQ; a total of 115 ANOVA's were performed in this analysis. The comparisons between before and after training responses used repeated measures t-test for each of the 115 comparisons.

RESULTS: Results of the ANOVA's indicated that the four groups responded quite differently to the PCQ. A total of 50 (43.5%) of the 115 ANOVA's yielded statistically significant ($p \leq .05$) group differences; 30 (26.5%) of the comparisons were statistically significant at $p \leq .01$ (See Table 1). Examination of the 23 situations on the PCQ indicated the following: for one of the situations, all five responses yielded differences; for two situations, four of the five responses yielded differences; for five of the situations, three of the five responses yielded differences; for seven of the situations, two of the responses yielded significant differences; for six of the situations, one response yielded differences; and for two of the situations, none of the responses yielded significant differences.

24 of the 50 statistically different comparisons were between senior trainees and social work students. All but two of these 24 differences occurred for responses to which trainees gave the highest ratings and social work students gave the lowest ratings.

The comparisons between pre and post training responses yielded statistically significant ($p \leq .05$) differences for only 9 (7.7%) of the 115 comparisons (See Table 2). The nine statistically significant comparisons occurred for 9 of the 23 situations; there were no statistically significant differences for 14 of the situations. Examination of the direction of the change in mean responses suggested, however, that for eight of the statistically significant comparisons the direction of the change was towards the responses of the professional counselors.

DISCUSSION: Preliminary statistical analyses demonstrated that the PCQ differentiated among four groups of subjects. The PCQ demonstrated pre-post training changes in responses of trainees. Post-training responses of trainees indicated that their responses became more like those of professional counselors and social work students. All but one of the changes occurred for responses which professional counselors had rated "poor" or "very poor". Post-training responses of trainees also indicated that trainees became more willing to rate responses negatively. Paired comparison analyses were not performed. However, inspection of highest and lowest ratings for the statistically different response ratings indicated that the most frequent differences were between senior trainee applicants and social workers and rarely between senior trainee applicants and introductory psychology students and rarely between professional counselors and social work students. The remaining differences occurred nearly equally between senior trainee applicants and professional counselors, between introductory psychology students and both professional counselors and social work students.

CONCLUSIONS AND IMPLICATIONS: The instrument was effective in demonstrating differences among groups and between pre and post training responses. Further refinements should be based upon results of administering the PCQ to larger groups of subjects, upon comparisons with post practicum responses and upon comparisons with a group of elderly persons who have not applied for training. The PCQ should also be reviewed in conjunction with the course and practicum content.

TABLE 1

Pre-Test Responses to Four Counselor Questionnaires: Means, Standard Deviations, and ANOVA Comparisons for Four Subject Groups

Question Item[a]	Stages II N	Stages II X̄	Stages II SD	Psychology 1-003 N	Psychology 1-003 X̄	Psychology 1-003 SD	Counselors N	Counselors X̄	Counselors SD	Social Work N	Social Work X̄	Social Work SD	F-ratio	p-value
1.a	15	1.07	.92	40	1.70	.88	12	1.50	.67	12	1.42	.51	.06	.47
b	15	1.73	.70	38	1.77	.99	12	1.83	.83	12	1.67	.65	.08	.97
c	15	3.47	1.06	37	3.68	1.03	12	4.00	.74	11	3.64	.67	.71	.55
d	15	4.20	1.15	38	3.90	1.12	12	4.67	.49	12	4.42	.79	2.15	.10
e	15	2.20	1.15	38	2.40	1.30	12	1.52	.51	12	1.58	1.00	3.37	[illegible]
2.a	15	3.73	1.15	39	3.00	1.20	12	4.08	1.00	12	3.92	.79	3.07	[illegible]
b	15	1.40	.51	38	1.55	.72	12	1.17	.39	12	1.17	.39	2.03	.11
c	15	2.73	1.28	39	3.28	1.36	12	2.08	1.31	11	2.33	.98	3.57	[illegible]
d	15	2.47	1.08	40	2.40	1.26	12	1.75	.87	12	1.67	.78	2.33	.08
e	15	4.13	.99	40	4.43	.84	12	4.17	.72	12	4.17	1.11	.60	.62
3.a	15	2.93	1.10	39	3.31	[illegible]	12	2.25	.87	12	2.33	.98	4.16	[illegible]
b	15	1.13	.35	38	1.21	.52	12	1.00	—	12	1.17	.38	.71	.55
c	15	2.67	1.05	39	2.92	1.31	12	1.75	1.29	12	2.83	.96	4.27	[illegible]
d	14	4.07	.83	38	3.84	1.08	12	4.17	.83	12	4.25	.62	.79	.50
e	14	2.36	1.15	40	2.15	1.00	12	1.67	.65	12	1.50	.67	2.63	.06
4.a	15	4.33	.72	41	4.22	.91	12	4.17	1.03	11	3.36	1.18	2.87	[illegible]
b	15	2.93	1.06	40	2.49	.96	12	1.25	.45	12	1.67	.78	2.77	[illegible]
c	14	2.43	1.16	40	2.03	1.19	12	2.83	1.03	12	2.67	.98	6.10	[illegible]
d	15	3.87	1.06	39	3.33	.90	12	3.83	.83	11	3.91	.32	1.92	.13
e	15	2.87	.92	41	2.32	1.33	12	1.08	1.24	12	[illegible]	.70	3.04	[illegible]
5.a	15	2.87	1.06	41	3.00	1.10	12	2.50	.80	12	2.50	.79	4.30	[illegible]
b	15	3.47	.99	41	3.22	1.01	12	3.50	.67	12	3.25	.97	.39	.62
c	15	3.33	1.18	41	3.65	1.03	12	4.50	.67	12	4.17	.83	3.62	[illegible]
d	15	1.20	.41	40	1.43	1.01	12	1.17	.39	12	1.08	.29	.88	.46
e	15	1.93	1.33	40	1.60	1.01	12	1.08	.29	12	1.33	.49	2.01	.12
6.a	14	3.29	1.38	40	2.65	1.33	12	3.11	.79	12	2.50	1.16	1.90	.14
b	15	1.60	1.12	40	1.33	1.04	12	3.00	1.44	12	3.25	1.29	7.03	[illegible]
c	14	3.63	.76	40	1.90	1.10	12	1.83	.94	12	2.33	1.15	1.66	.18
d	15	1.33	.62	40	1.33	.86	12	1.36	.67	12	1.25	.45	.44	.72
e	14	2.07	1.64	41	2.20	1.34	11	1.45	.69	12	1.17	.39	2.47	[illegible]
7.a	15	1.80	.86	40	1.70	.72	12	1.25	.45	12	1.33	.49	2.20	.09
b	15	3.40	.91	41	3.44	1.23	12	4.33	.89	12	3.83	1.03	2.40	.07
c	14	2.50	1.09	41	2.73	1.10	12	3.33	1.30	12	3.50	1.24	2.31	.08
d	14	2.43	1.22	41	2.11	1.08	12	2.00	.95	11	2.58	.67	2.88	[illegible]
e	15	2.20	1.01	40	2.23	1.05	12	1.67	.78	12	1.50	.43	2.30	.07
8.a	14	2.57	1.34	40	2.48	1.26	12	3.33	1.30	12	3.00	1.41	1.38	.26
b	14	2.71	.99	41	2.07	1.06	12	1.42	1.16	12	1.25	.45	3.69	[illegible]
c	14	2.86	1.26	41	4.07	.96	12	2.25	1.00	12	2.17	1.03	18.16	[illegible]
d	14	2.71	1.39	41	3.00	1.08	12	3.00	.85	12	2.42	.90	1.23	.30
e	15	2.53	1.45	40	2.55	1.30	12	2.92	.79	12	2.92	1.08	4.68	[illegible]
9.a	15	2.07	1.36	40	1.58	.68	11	1.23	.62	12	1.17	.39	2.97	[illegible]
b	15	3.67	1.19	41	3.17	1.07	12	3.50	1.36	11	3.36	.67	.47	.71
c	15	3.07	1.33	41	2.88	1.17	12	2.25	.97	12	2.50	1.08	1.49	.22
d	15	4.67	.62	41	4.37	.83	12	4.33	.98	12	4.17	.72	.93	.43
e	15	4.27	.80	41	3.46	1.16	12	3.75	.75	11	3.64	.81	2.36	.08
10.a	14	4.43	.65	41	3.41	1.23	11	4.08	.90	12	3.50	1.24	3.40	[illegible]
b	14	2.93	1.07	40	2.35	1.28	12	2.00	1.21	12	2.08	.67	1.88	.14
c	13	1.62	.96	39	1.49	.51	12	1.49	.45	12	1.25	.45	1.38	.25
d	14	4.43	.65	41	4.17	.70	12	3.83	.94	12	3.92	.67	2.78	[illegible]
e	13	4.54	.66	41	3.88	1.20	12	4.42	1.00	11	4.27	.32	2.04	.12
11.a	14	4.79	.43	41	4.20	1.17	12	4.50	.67	12	4.00	1.04	1.79	.16
b	13	2.38	.87	40	2.10	1.06	12	2.00	1.21	11	1.73	.65	.87	.46
c	13	2.38	1.26	40	3.05	1.06	12	1.67	.78	11	1.92	.90	1.00	.40
d	14	4.14	1.30	41	3.83	1.20	12	2.50	1.17	12	3.42	1.00	1.12	.35
e	14	2.57	1.16	41	2.32	1.36	12	2.50	1.17	12	2.58	1.00	2.71	[illegible]

Question Item[a]	Stages II N	Stages II X̄	Stages II SD	Psychology 1-003 N	Psychology 1-003 X̄	Psychology 1-003 SD	Counselors N	Counselors X̄	Counselors SD	Social Work N	Social Work X̄	Social Work SD	F-ratio	p-value
12.a	15	3.07	.92	41	3.63	1.09	12	4.12	.83	12	4.42	.67	3.36	.27
b	15	1.67	.98	40	1.30	.52	12	1.50	1.17	12	1.17	.39	1.46	.24
c	15	2.27	1.16	40	2.18	1.00	12	1.50	.67	12	1.67	.78	2.15	.10
d	15	4.00	.76	39	4.03	1.01	12	4.33	.97	11	4.33	.49	1.08	.36
e	15	3.20	1.33	40	2.08	1.40	12	2.50	1.26	12	2.08	.74	2.01	.12
13.a	15	2.00	1.07	39	2.97	1.22	12	1.75	.87	12	1.83	.94	4.93	[illegible]
b	14	1.07	1.27	40	1.80	1.36	12	[illegible]	.95	12	1.17	.78	4.69	[illegible]
c	15	1.93	1.44	39	2.45	1.17	12	1.09	1.13	12	1.92	1.00	3.69	[illegible]
d	14	[illegible]	1.28	38	[illegible]	.78	12	[illegible]	.65	12	[illegible]	.78	3.76	[illegible]
e	14	1.29	1.13	40	1.50	1.43	12	1.83	.72	11	1.39	1.00	2.34	[illegible]
14.a	15	2.80	1.26	40	2.10	1.22	12	1.83	.73	12	3.17	1.03	1.77	.16
b	14	2.36	1.01	40	2.15	1.00	12	2.25	.87	12	1.83	.72	.79	.38
c	15	4.00	1.35	41	3.83	1.01	12	3.83	.94	12	3.50	1.31	.50	.69
d	15	2.27	1.10	41	1.93	1.14	12	1.75	.62	11	2.00	1.26	.33	.46
e	15	1.47	.64	41	1.98	1.57	12	2.08	.79	11	2.09	1.38	1.11	.35
15.a	15	2.93	1.53	40	2.43	1.24	12	2.75	1.29	12	2.50	1.13	.65	.59
b	14	1.71	.88	40	2.43	1.22	12	1.42	.51	12	1.17	.39	7.03	[illegible]
c	15	2.40	1.06	41	2.13	1.16	12	3.08	1.35	12	2.67	.98	1.83	.16
d	15	2.80	1.27	41	2.39	1.23	12	2.83	.72	12	2.00	1.04	1.33	.27
e	15	2.07	1.39	41	2.31	1.36	12	2.00	.74	12	1.58	.90	10.10	[illegible]
16.a	15	3.73	1.42	41	3.93	.98	12	4.50	.67	12	4.50	1.08	1.83	.15
b	15	1.79	1.07	41	1.39	1.16	12	[illegible]	.87	12	2.67	.78	4.46	[illegible]
c	13	[illegible]	.82	40	[illegible]	.62	12	[illegible]	.39	12	[illegible]	—	3.73	[illegible]
d	14	[illegible]	1.29	40	[illegible]	.95	12	[illegible]	.65	12	[illegible]	.69	3.33	[illegible]
e	15	1.07	1.25	41	1.24	1.36	12	2.83	1.03	12	[illegible]	1.36	3.26	[illegible]
17.a	16	3.64	1.01	41	3.71	.93	12	3.67	.78	12	3.75	.75	.04	.99
b	16	1.33	1.23	41	1.65	1.11	12	4.25	.75	12	4.25	.87	3.13	[illegible]
c	16	3.63	1.35	40	2.38	1.17	12	3.08	.79	12	3.33	.78	.26	.36
d	15	3.80	.77	41	3.61	1.07	12	3.50	1.17	12	3.92	.90	1.96	.17
e	13	1.67	.64	40	2.20	1.44	12	[illegible]	.90	12	1.50	1.09	4.03	[illegible]
18.a	16	2.42	1.00	41	2.76	1.13	12	2.08	.67	12	1.67	.65	4.79	[illegible]
b	14	1.58	.65	40	1.63	.86	12	1.42	.51	12	1.50	.79	1.07	.38
c	13	1.73	.88	40	1.63	.70	12	1.33	.49	12	1.08	.29	2.83	[illegible]
d	13	3.10	1.21	41	2.98	1.23	12	3.08	1.00	12	1.42	1.21	2.65	.06
e	13	3.60	1.30	41	3.93	.88	12	4.12	.67	12	4.00	.83	1.70	.18
19.a	14	2.43	1.16	40	2.10	.84	12	1.50	.67	12	1.42	.51	3.03	[illegible]
b	15	[illegible]	.88	41	[illegible]	1.25	12	[illegible]	.36	12	[illegible]	1.11	6.25	[illegible]
c	15	[illegible]	.90	40	[illegible]	.80	12	[illegible]	.43	12	[illegible]	.60	4.27	[illegible]
d	15	3.60	1.12	41	3.71	.93	12	3.33	.78	12	3.83	1.24	1.41	.23
e	15	1.73	.80	40	1.63	.93	12	1.00	—	12	1.42	.27	2.31	.08
20.a	15	1.67	1.11	41	2.12	1.05	12	1.83	1.03	12	1.67	.90	3.46	[illegible]
b	15	[illegible]	1.25	41	[illegible]	1.15	12	[illegible]	.67	12	[illegible]	.65	3.35	[illegible]
c	15	[illegible]	.51	40	[illegible]	.73	12	1.50	.80	12	[illegible]	.80	6.61	[illegible]
d	15	3.33	.80	41	3.56	1.03	12	3.42	.79	12	1.75	.45	7.61	.01
e	15	1.33	.82	40	1.10	.30	12	1.00	.29	12	1.00	—	4.83	[illegible]
21.a	15	1.13	1.20	39	1.63	1.32	12	1.00	.85	12	1.83	.73	3.66	[illegible]
b	15	[illegible]	1.11	41	[illegible]	.64	12	[illegible]	.51	12	[illegible]	.80	3.63	[illegible]
c	15	1.93	1.13	38	[illegible]	.94	12	[illegible]	.65	12	[illegible]	.45	3.13	[illegible]
d	15	2.87	1.13	40	3.98	1.27	12	3.83	.72	12	3.33	.90	1.88	.10
e	15	1.67	.98	40	1.30	.91	12	1.23	.40	12	1.00	—	1.83	.15
22.a	14	1.86	1.10	41	2.41	1.16	12	1.42	.65	12	1.50	.67	3.26	[illegible]
b	16	1.38	.63	40	2.03	1.17	12	2.67	1.33	12	3.17	.95	.85	.47
c	15	3.93	.83	41	3.39	1.18	12	3.33	.78	12	3.17	1.15	1.76	.16
d	13	1.00	1.01	40	1.66	.99	12	1.58	.51	12	1.50	.52	.79	.35
e	16	3.39	.91	41	3.12	1.21	12	3.00	.95	12	2.50	1.16	.98	.41
23.a	13	1.53	.63	40	1.38	.86	12	1.17	.39	12	1.17	.39	3.70	[illegible]
b	16	[illegible]	1.13	40	[illegible]	1.29	11	[illegible]	1.04	12	[illegible]	1.30	3.95	[illegible]
c	15	1.87	.83	40	3.13	1.08	12	3.08	.83	12	1.93	.75	.25	.86
d	16	1.50	1.03	40	3.46	1.21	12	3.33	.88	12	2.08	1.00	.47	.70
e	13	2.53	1.06	40	2.50	1.08	12	2.67	.50	12	2.21	1.14	10.63	[illegible]

---

[a] The scale format used was: very poor(1), poor(2), okay(3), good(4), and very good(5).

L.

TABLE 2

Comparison of Before and After
Training Responses to Four Counselor Questionnaire for
STAGES II Participants

	Pre x̄	Pre S.D.	Post x̄	Post S.D.	t	p
1.a	1.64	.67	1.27	.47	1.79	.10
b	1.67	.83	1.44	.53	.61	.56
c	3.60	.70	3.60	.84	.00	1.00
d	4.44	.73	4.44	.88	.00	1.00
e	2.27	1.35	1.45	.69	2.31	.04
2.a	3.60	.84	4.00	1.25	-.83	.40
b	1.27	.47	1.09	.30	1.49	.17
c	2.30	1.16	2.40	1.08	-.18	.86
d	2.10	1.20	2.10	.74	.00	1.00
e	4.40	.84	4.30	.82	.32	.76
3.a	2.40	1.17	2.80	1.03	-1.39	.20
b	1.09	.30	1.09	.30	.00	1.00
c	2.09	.94	3.27	1.49	-2.20	.05
d	4.20	.63	4.20	.79	.00	1.00
e	2.30	1.16	2.20	1.14	.36	.73
4.a	4.18	.75	4.18	.98	.00	1.00
b	2.50	.85	2.60	.84	-.29	.78
c	2.67	1.32	3.11	1.17	-.69	.51
d	2.62	1.17	3.69	.98	-2.75	.02
e	3.73	1.01	4.36	.81	-1.73	.11
5.a	3.91	.94	3.55	1.44	1.00	.31
b	3.40	1.08	3.40	1.27	.61	.56
c	3.30	1.06	3.80	.92	-1.46	.18
d	1.27	.47	1.18	.41	.56	.59
e	1.33	.93	1.18	.41	1.17	.27
6.a	3.00	1.41	2.70	1.57	.49	.64
b	1.73	1.27	1.73	1.19	.00	1.00
c	1.22	.44	1.67	1.12	-1.51	.17
d	1.43	.93	1.43	.69	.00	1.00
e	3.00	1.70	2.30	.62	1.06	.32
7.a	1.40	.52	1.50	.71	-.56	.59
b	3.45	1.04	3.36	1.21	.22	.83
c	3.10	.99	1.80	1.03	1.00	.34
d	3.10	1.32	3.20	1.03	.00	1.00
e	2.09	.94	2.73	1.01	1.79	.10
8.a	2.30	1.25	2.50	1.31	-.69	.51
b	2.70	.95	2.40	1.17	1.00	.34
c	3.67	1.05	3.67	.87	1.00	.35
d	2.33	1.23	2.33	1.41	.00	1.00
e	2.33	1.41	2.44	1.33	-.32	.76
9.a	1.64	1.03	1.55	.52	.29	.78
b	3.55	1.29	3.09	1.22	.96	.36
c	2.91	1.14	2.73	1.10	.36	.39
d	4.64	.67	4.36	.81	1.40	.19
e	4.09	.83	3.82	.87	1.15	.28
10.a	4.45	.69	4.18	.75	1.15	.28
b	2.73	1.10	2.45	1.29	.52	.61
c	1.30	.48	1.60	.52	-1.15	.28
d	4.36	.67	4.33	.60	-.09	.31
e	4.44	.73	4.44	.73	.00	1.00
11.a	4.82	.41	4.73	.47	1.00	.34
b	2.10	.74	2.00	.67	.43	.68
c	2.13	1.36	2.75	1.04	-1.26	.22
d	4.09	1.14	4.00	.83	.00	1.00
e	2.27	1.10	4.09	1.10	-4.04	.00
12.a	4.00	.63	4.30	.71	-1.34	.21
b	1.60	.97	1.40	.52	.56	.59
c	2.10	1.20	2.00	.82	.32	.76
d	4.00	.82	4.30	.71	-2.24	.05
e	3.30	1.42	2.60	1.43	1.77	.11
13.a	2.10	.99	2.30	1.23	-.54	.58
b	3.00	1.31	2.75	1.04	.68	.52
c	2.78	1.30	2.44	1.24	.89	.40
d	2.25	1.04	2.00	.76	.61	.56
e	3.25	1.17	2.18	1.30	3.07	.01
14.a	2.45	1.29	2.18	.98	1.00	.34
b	2.30	.95	1.80	.79	1.63	.14
c	3.82	1.33	3.91	1.30	-.32	.76
d	2.00	.94	2.00	1.05	.00	1.00
e	1.27	.47	1.36	.51	-.56	.59
15.a	2.70	1.37	2.60	1.35	.56	.59
b	1.78	1.09	1.44	.53	1.00	.35
c	2.30	1.06	2.00	1.25	1.15	.28
d	2.70	1.34	2.80	.92	-.36	.73
e	2.80	1.23	2.60	1.03	.00	1.00
16.a	3.82	1.33	3.72	1.35	.43	.68
b	3.00	1.00	2.89	.93	.29	.78
c	1.30	.48	1.40	.52	-1.00	.34
d	2.11	1.05	2.36	.88	-1.84	.10
e	3.55	1.29	4.27	.65	-1.62	.14
17.a	3.50	.97	4.10	.88	-1.96	.08
b	3.00	1.25	3.50	1.26	-1.00	.34
c	2.20	1.23	2.80	1.23	-1.41	.19
d	3.63	.81	3.82	.75	-.80	.44
e	4.36	.67	4.09	1.13	1.00	.34
18.a	2.45	1.29	2.36	1.03	.36	.59
b	1.36	.51	1.18	.41	1.49	.17
c	1.63	.67	1.27	.47	1.79	.10
d	2.91	1.04	1.82	.98	2.30	.04
e	3.36	1.36	2.91	.83	-1.11	.29
19.a	2.10	.74	2.00	1.25	.22	.76
b	3.60	.84	3.40	.84	.61	.53
c	2.20	.97	1.80	.42	2.69	.02
d	3.55	1.21	3.82	.75	-.90	.39
e	1.33	.83	1.82	1.25	-.71	.49
20.a	3.36	1.12	3.27	1.10	.76	.47
b	2.91	1.28	2.73	.91	.41	.69
c	4.13	.31	4.18	.60	2.09	.06
d	3.10	.87	3.10	1.25	.00	1.00
e	1.27	.47	1.18	.41	1.00	.34
21.a	3.00	1.41	2.50	1.08	1.34	.21
b	2.20	.63	1.82	.63	2.45	.04
c	4.10	.88	3.90	.99	1.50	.17
d	3.00	1.03	3.30	1.16	-1.25	.26
e	1.70	.95	1.20	.42	1.63	.14
22.a	2.30	1.07	3.00	.54	-1.87	.10
b	2.33	.71	2.11	.78	.80	.45
c	3.67	.87	3.33	.87	.85	.40
d	1.60	.84	1.90	.73	-1.00	.34
e	2.11	.93	2.00	.71	.29	.78
23.a	1.40	.52	1.30	.48	1.00	.34
b	3.20	1.14	2.40	1.26	-.56	.59
c	1.00	.71	1.60	.70	1.50	.17
d	4.00	.34	3.30	.93	1.53	.17
e	3.63	1.10	3.30	1.07	.26	.82

REFERENCES

Alley, S. R. & Blanton, J. Paraprofessionals in mental health: An annotated bibliography from 1966 to 1977. Berkeley, California: Social Action Research Center, 1978.

Alley, S. R. & Blanton, J. The new volunteer. In S. R. Alley, J. Blanton, & R. Feldman (Eds.). Paraprofessionals in mental health: Theory and practice. New York: Human Sciences Press, in press.

Brammer, L. M. Who can be a helper? Personnel and Guidance Journal, 1977, 55, 303-308.

Carkhuff, R. R. Helping and human relations, Volume I. New York: Holt, Rinehart and Winston, Inc., 1969.

Delworth, U. (Ed.). Special issue: Paras, peers, and pros. The Personnel and Guidance Journal, 1974, 53, 249-338.

Fast, J. H. The role of the chaplin. Guidelines for an information and counseling service for older persons. Durham, N.C.: Duke University Center for the Study of Aging and Human Development, 1970.

Gaitz, C. M., & Scott, J. Analysis of letters to "Dear Abby" concerning old age. The Gerontologist, 1975, 15(1), Part I, 47-50.

German, S. C. Selecting undergraduate paraprofessionals on college campuses: a review. Journal of College Student Personnel, 1979, 20, 28-34.

Havighurst, R. J. Developmental tasks and education. (3rd ed.) New York: McKay, 1972.

Ivey, A. E. Cultural expertise: Toward systematic outcome criteria in counseling and psychological education. Personnel and Guidance Journal, 1977, 55, 296-302

Ivey, A. E. Microcounseling; innovations in interviewing training. Springfield, Illinois: Thomas, 1971.

Klein, W. K., LeShahn, E. J., & Furman, S. S. Promoting mental health of older people through group methods: A practical guide. New York: Mental Health Materials Center, 1965.

Nash, K. B., Lifton, N., & Smith, S. E. (Eds.). The paraprofessional: Selected readings. The Yale Monograph on Paraprofessionalism. New Haven, Conn.: Advocate Press, Inc., 1978.

Payne, B. P. The older volunteer: Social role continuity and development. The Gerontologist, 1977, 17, 355-361

Pineo, P. The latter years of marriage. In B. Neugarten (Ed.). Middle age and aging. (3rd ed.) Chicago: University of Chicago Press, 1972.

Rose, A. M. The subculture of the aging. In B. Neugarten (Ed.). Middle age and aging. (3rd. ed.) Chicago: University of Chicago Press, 1972.

Schmidt, L. D. Issues in counseling older people. Educational Gerontology: An International Quarterly, 1976, 1, 187-192.

Seguin, M. M., & O'Brien, B. (Eds.). Releasing the potential of the older volunteer. A Monograph of the Older Volunteer Project, Ethel Percy Andrus Gerontology Center. Los Angeles: The University of Southern California Press, 1976.

Waters, E., Fink, S., & White, B. Peer group counseling for older people. Educational Gerontology: An International Quarterly, 1976, 1, 157-170.

THE CONTINUING EDUCATION OF COLLEGE GRADUATES THE RELATIONSHIP OF AGE AND SEX TO THE PURSUIT OF EDUCATION.*

Larry C. Coppard
Research Associate
Institute of Gerontology
The University of Michigan

After decades of "marginality" the adult student is being rediscovered by higher education. Whether or not this attention will significantly improve the accessibility of current academic opportunities or promote the widespread establishment of new programs sensitive to the special needs and interests of adult students is yet to be seen. Several signs suggest, however, that the adult may be taken more seriously in the future. For example, the concept of lifelong learning is receiving increased acceptance among educators, most colleges and universities are being forced to examine the potential for new markets among older students as they adjust to the declining birth rate, and adults in large numbers continue to demonstrate strong interest in pursuing educational opportunities. The study described here looked at college graduates, one of the many adult constituencies being wooed by institutions of higher education.

Study Purpose

Current literature on the adult or so-called "nontraditional" student has made few distinctions among different subgroups. Without information about these groups it is doubtful educators can develop programs and policies relevant to the constitutencies they expect to serve. The purpose of this study was to better understand one group of nontraditional students - those with at least an undergraduate degree. Specifically, the study explored the relationship between age and sex and (1) what educational opportunities college graduates want to pursue, (2) the reasons they want to pursue them, (3) the ways in which they want to pursue them, and (4) the barriers they experience.

Related Literature

Several organizations have supported the cause of the nontraditional student. The Carnegie Commission on Higher Education, the Commission on Nontraditional Study, the Panel on Alterative Approaches to Graduate Study, and the National Board of Graduate Study have all issued reports urging higher education to assume more responsibility for the nontraditional student.[1] These reports generally agree: adults in substantial numbers are in need of and are interested in further education, but institutions wishing to serve them must alter their programs to provide for the special needs and resources they bring to education.

---

*Reprints of this article are available by writing the author at the Institute of Gerontology, The University of Michigan, 520 E. Liberty Ann Arbor, MI 48109

[1] See Coppard and Timberlake (1977) for a bibliography on nontraditional graduate study.

Recent studies on the participation of adults in education leave little doubt that the older adult represents an important constituency for higher education. Three national surveys (Johnston and Rivera, 1965; Carp, Peterson and Roelfs, 1974; National Center for Education Statistics, 1974, 1976, 1977) provide the basis for some general conclusions about the adult student: participation in education declines with age, increases with income and amount of prior education, and includes a disproportionally small number of minority people. Additionally these surveys show that over the past decade participation of older adults has steadily increased, although some predict that this growth will not continue (O'Keefe, 1976).

Complementing these national surveys are numerous state surveys which have documented the educational interests of the adult student.[2] All of these surveys, which now number over 30, were conducted to provide guidance to educational policymakers. Cross (1977) suggests that as a result of these surveys, "we know a lot more about patterns of participation and interests than we do about number." (pg. 3). She cautions about being too literal in using surveys for educational planning. Like the national surveys these regional surveys permit some broad generalizations and are particularly useful in identifying barriers to participation. But their utility, except for general purposes, is limited because survey populations include so many different groups of learners often making educationally relevant conclusions impossible.

Methodology

Background and field research on this study began in 1975 in conjunction with the Feasibility Study of External Graduate Degree Programs sponsored by The University of Michigan's Rackham School of Graduate Studies and funded by the Carnegie Corporation of New York (Eisley and Coppard, 1977). This field research consisted of meetings with college graduates, visits to educational programs designed for older adults, and a review of educational interest surveys. As a result of these activities two surveys utilizing mailed questionnaires were conducted, the findings of which are reported here.

The first survey was of alumni of The University of Michigan living in Michigan. A random sample of 996 degree holders (all degrees and ages) was drawn from the University's alumni records. From the sample, 71 names were dropped because they resided out of Michigan or were deceased. Based on 628 returned and usable questionnaires the resource rate was 68%.

A second survey was made of graduate students enrolled at The University of Michigan in the Fall of 1977. The sample included 942 graduate students drawn randomly and stratified by age. Additionally the selection process was controlled so students in all instructional units were represented. A disproportionate sampling rate was used across age strata. Due to the special characteristics of graduate programs in Law, Dentistry, and Medicine, students in these programs were excluded from the sample. Fifteen students were removed from the sample because they were not enrolled at the time of the survey. A total of 742 usable questionnaires were returned for a response rate of 80%.

---

[2] These surveys are reviewed in Valley and Hamilton (1976) and Cross (1977).

File construction, data manipulation, and statistical analysis were performed with MIDAS and OSIRIS IV, two statistical software packages supported by The University of Michigan. Statistical significance of observed differences between men and women and among age groups was determined by the chi-square test and where appropriate a two-way analysis of variance. For purposes of analysis, each sample was divided by sex and into seven age groups.

Summary of Findings

Due to the quantity of data produced by these surveys only the major findings are reported here. (See Coppard, 1978.) The surveys were organized around six general questions; each produced statistically significant responses among age groups and between men and women.

Participation in Educational Activities. Participation in formal graduate studies at The University of Michigan reflects patterns in graduate programs throughout the U.S. and consists largely (83%) of persons under 35 years of age, a majority of whom are men. Women comprise a majority (62%) of the students over 34 years old. A similar pattern of participation in formal study was found in the alumni survey where the age group with the largest percentage of persons participating in credit activities was under 24 years old. Women over 30 years of age, in contrast to men, reported accumulating more academic credits not yet applied toward a degree. But participation in other forms of study during the 12 months prior to the survey revealed a different pattern; 51% of all alumni said they participated in non-credit educational activities, and 43% studied at least one subject on their own. Significant differences were found in the participation in non-credit activities among age groups with the highest levels of participation in the 25-39 and 45-49 age groups. Women showed higher levels of participation in non-credit study than men; no differences were found in the levels of participation of men and women of any age in independent study.

Fields of Interest. Graduate programs traditionally attract relatively small numbers of students from the oldest age groups. This survey showed that older students are concentrated in education, nursing, and social work; few are found in architecture, engineering, and pharmacy. Enrollment also was shown to fluctuate by sex with women outnumbering men in education, library science, nursing, and social work. Only 5% of the graduate students in engineering were women; more, but relatively few, women were enrolled in architecture, business, and pharmacy.

When alumni were asked what they would like to study, most expressed interest in more than one field. The largest percentage of their interests was in professional (43%) and academic (25%) subjects, followed by recreational topics (18%) and the fine arts (15%). When asked to indicate the one interest they would pursue were they to study at The University of Michigan, most indicated a professional (60%) or academic (25%) subject. Alumni interest in professional subjects was shown to be fairly constant through all age groups; men in most age groups expressed more interest in these subjects than women. Similar levels of interest in academic subjects were expressed by men and women; persons over 45 years old showed higher levels of interest than younger people. Interest in the fine arts and recreational subjects was stable over all age groups, with women in all age groups expressing more interest than men in these subjects. When asked about the likelihood of pursuing their interests, older alumni in contrast to younger alumni indicated they were less likely to enroll in educational programs.

Reasons for Studying. Graduate students, in general, said the most important reasons for pursuing graduate work were to obtain a degree, to prepare for a job, to study for personal satisfaction, and to be better informed. Different age groups, however, placed greater emphasis on different reasons. Middle-aged students, in contrast to other age groups, were more concerned with job advancement, while the oldest students were more concerned with doing their jobs better, being better informed, a better parent, and learning to solve and understand personal and community problems. Women, in contrast to men, placed more importance on obtaining a degree and a job, and on personal and community problem solving.

In contrast to the graduate student population, when alumni were asked why they might pursue further education they put greater importance on being informed, personal satisfaction and happiness, and doing their jobs better. They placed the least importance on promotions, degrees, improved income, and a new job, all reasons that graduate students rated as among the most important. While the overall patterns of responses by alumni was similar for men and women, it was the women in most age groups who gave particular reasons the highest ratings of importance. Also, for all reasons examined except the most general (e.g., to be better informed, to deal more effectively with personal problems, to understand community problems), older alumni gave slightly lower ratings of importance.

Quality of Educational Experience. Graduate students were the sole source of information on the quality of the educational experience. Grades were found to differ by age and sex. Women in all age groups obtained higher grade point averages than men and a slight increase in grade point average was observed in older age groups with the highest averages being obtained by the middle age groups. When asked about the number of hours studied per credit hour elected, no differences were found by age or sex. On all activities generally associated with an academic program (discussions with students and faculty, use of library, attending cultural events, and extracurricular activities), no difference was observed in the amount of time devoted per credit hour by men or women of any age. Differences did occur in the time spent in nonacademic activities. Older men and women of all ages spend more time in community activities than do young men. Men make more use of recreational facilities and attend more sporting events than women. Also, recreational facilities are utilized more by younger than older students.

Overall, older students rated the quality of their educational experience (appropriateness of course content to their level of experience, knowledge, and interest; the sensitivity of faculty to their interests; availability of courses in their areas of interest; and the quality of academic and personal counseling) higher than did younger students. On one dimension (sensitivity of faculty), women rated this aspect of their experience higher than did men. In all other cases, there was no difference between the responses of men and women.

Barriers to Study. The graduate students surveyed indicated that they encountered several barriers in pursuing their studies; not enough time to study, finances, and job responsibilities being the largest barriers. Younger students, in contrast to older students, were more troubled by finances, not being convinced of the value of study, and being unsure of their abilities. Child care and family responsibilities was reported to be greater problems for middle-aged students. The oldest students were most troubled by conflicts over job responsibilities, and getting courses at convenient times. Child care, being too tired, family responsiblities, and getting courses at convenient times was greater problems for women than men. Older graduate students said they had to contend with situations which often hinder their educational pursuits. In contrast to younger students, older graduate students worked more hours per week, their employment was outside the University, they received fewer scholarships, most were married with children, and they lived longer distances from the campus.

Alumni reported barriers similar to those reported by graduate students. Alumni indicated that being too busy (a problem they share with graduate students) and the lack of appropriate and convenient opportunities (a problem they share with older graduate students) are the greatest hindrances to further study. Family responsibilities and child care, again, were problems for older alumni. Finances were less of a problem for older persons. Men, more than women, were hindered in their pursuit of educational opportunities because they were too busy and had job conflicts. Women had more difficulty with child care and transportation. Also, in contrast to women who were already graduate students, alumni women more than men claimed that uncertainty about their abilities was a problem.

Methods of Instruction. Graduate students and alumni preferred having regular courses offered at a location close to their residences and taking courses by forms of independent study which preserved a relationship between a faculty member and the student; least desirable was televised instruction in their view. Older graduate students, in general, were more favorable to teaching methods which make instruction more convenient, while older alumni indicated many of these methods were less desirable. In several cases in each sample women rated convenient methods more desirable than did men.

When alumni were asked how important different types of academic programs would be to them, most gave the highest rating to non-credit courses and workshops. Ratings of these two options were stable through all age groups. The ratings of all other options declined with age of alumni. The least importance, by alumni of all ages, was given to degree programs. Women rated most academic programs of greater importance to them than did men.

Conclusions and Implications

This study showed that the educational interests and experience of persons who possess at least one college degree vary in many respects, depending on their age and sex. Several inferences for educational policy and practice can be drawn from these observed differences.

A Heterogeneous Student Body. Typically, college and university programs for graduate students serve a population whose average age is in the mid-twenties. Understandably, this age group has been and is the frame of reference for college and university graduate programs and policies. This study showed that students of different age and sex are likely to desire different types of instructional programs, want to study in different ways, are studying for slightly different reasons, and require different support services. To the extent that an institution's student body becomes more heterogeneous with significant numbers of men and women in different age groups, these institutions will, or should, experience pressures to provide a wider range of programs and services in order to be responsive to the diversity of their student bodies. Participation by older students in current programs does not reflect the breadth of academic interests these students possess.

The Liberal Arts. Older college graduates, in contrast to younger graduates, show less interest in job-related education and in some age groups indicate higher levels of interest in academic and fine arts subjects than younger people. Although the observations made here are only tentative, they do raise questions about the availability of liberal arts instruction for older persons who are not planning to make a career of college teaching or research.

Attractive Educational Options. In general older alumni express less interest in continuing their education than do younger alumni. When asked about the likelihood of participating in particular educational programs, their evaluations were consistently higher when these ratings were based upon the establishment of new rather than presently available programs. When confronted with two educational alternatives that all age groups rated as the most attractive (non-credit courses and short-term conferences and workshops) there was, however, no significant difference in the level of interest expressed by older and younger alumni. Apparently, an attractive educational alternative can counter what might be interpreted as lack of interest in education.

New Instructional Methods. New methods of instructional delivery have been promoted by many educators as a way to make instruction more convenient. This study showed that interest in new delivery methods fluctuates significantly. Highest ratings of these methods came from older graduate students, younger alumni, and women of all ages in both study populations. These groups are also the ones who showed the greatest interest in pursuing educational opportunities and reported the most barriers in pursuing them. What this suggests is that these students view these new methods as a way to pursue their interests while overcoming some of the obstacles that otherwise make participation in educational activities difficult or impossible.

Women. The women in this study, in contrast to men, desired more change in their life, wanted more education and was more likely to pursue it, were more open to new methods of instruction, sought more recognition for their study, were more likely to be seeking a transition in their career, and also experienced more barriers in their pursuit of further education. Since more women than men in older age groups are enrolling in higher education, it is likely that most institutions will first confront the issues discussed in this study in relationship to their women students. An institution's ability to adapt to the special needs of women may go a long way in making its programs attractive and accessible not only to the returning women, but to returning men as well.

The Older Student. Even though the older graduate student is usually employed, has a family, and is engaged in community activites, he or she studies as much as younger students per credit hour elected, obtains grades equal to or better than younger students, and spends an equal amount of time in activities associated with academic life. Based on their performance older students appear to be as serious about and interested in obtaining a good education as their younger counterparts. In addition, older students rate the quality of their academic experience significantly higher than do younger students. These observations lend support to the conclusion of other researchers that older students are not second-rate; the evidence, in fact, suggests the opposite conclusion, that older students may well be superior in some respects to younger students.

References

Carp, A., Peterson, R., Roelfs, P., et al. "Adult Learning Interests and Experiences." In K.P. Cross and J.R. Valley (Eds.), Planning Non-Traditional Programs. San Fransisco: Jossey-Bass, 1974.

Coppard, L.C. "The Continuing Education of College Graduates: The Relationship of Age and Sex to the Pursuit of Education." (Ph.D. dissertation, The University of Michigan, 1978).

Coppard, L.C. and Timberlake, K. External Graduate Study--A Bibliography. Ann Arbor: Rackham School of Graduate Studies, 1977.

Cross, K.P. "A Critical Review of State and National Studies of the Needs and Interests of Adult Learners." Paper presented for an NIE Invitational Conference, Washington, D.C., September 1977.

Eisley, J. and Coppard, L. Extending Opportunities for Graduate Studies in Michigan. Ann Arbor: Rackham School of Graduate Studies, The University of Michigan, 1977.

Johnston, J.W.C. and Rivera, R.J. Volunteers for Learning: A Study of the Educational Pursuits of American Adults. Chicago: Aldine Publishing Co., 1965.

National Center for Education Statistics. Participation in Adult Education (The 1969 and 1972 Surveys are available from the Government Printing Office. The 1975 survey is unpublished but available form N.C.E.S.).

O'Keefe, M. The Adult, Education, and Public Policy. Aspen, Colorado: The Aspen Institute for Humanistic Studies, 1976.

Valley, J.R. and Hamilton, I. (Eds.). "Matching New (?) Needs with New (?) Resources." in Issues in Nontraditional Study (Vol. 1). Princeton, NJ: Educational Testing Service, College Entrance Examination Board, 1976.

THE INFLUENCE OF A SERIES OF WORKSHOPS RELATED TO CITIZEN PARTICIPATION IN CIVIC AFFAIRS ON ANOMIA, LIFE SATISFACTION AND LOCUS OF CONTROL AMONG THE AGED POPULATION IN THE PIEDMONT REGION OF NORTH CAROLINA*

by

Curtis Trent, J. Conrad Glass and Robert Jackson
North Carolina State University

Purpose

The primary purpose of this study was to determine whether participation in a series of workshops on "citizen participation in civic affairs" could influence significantly locus of control, life satisfaction and anomia among the aged population in the Piedmont region of North Carolina. A secondary purpose was to determine the extent to which certain personal and situational characteristics of respondents were associated with feelings of locus of control, life satisfaction and anomia.

Review of the Literature

Studies of diversity among aging populations contribute much space to the analyses of correlates of social-psychological variables such as life satisfaction and happiness, social and mental well-being, life adjustment and adaptation, anomia and alienation, morale, and locus of control (Campbell, Converse and Rodgers, 1976; Neugarten, Havighurst and Tobin, 1961; Lawton, 1972; Leonard, 1977; Palmore and Luikart, 1972; Rotter, 1966; Seeman, 1972; Srole, 1956; Thurnher and Pierce, 1975; Wolk and Kurtz, 1975). In these studies and others, researchers have shown significant relationships between these dependent variables and such independent factors as type of housing, organizational affiliations, leisure activities, political affiliation and participation, health, education, income, work satisfaction, age, marital status, religion, race and sex.

Recognizing the potential for dissatisfaction, powerlessness and isolation among many elderly citizens, there is a need for educational programs to help these individuals cope with the social and psychological problems of aging and reverse negative situations which affect one's social-psychological well-being. The approach of this study was to provide participants interaction with peers in a comfortable learning situation on a subject relevant to their political, economic, and social well-being. The study was designed to increase participation in and satisfaction with life, decrease feelings of isolation, despair and alienation and spark new commitments to the larger society.

---

*Supported by a grant from the NRTA-AARP Andrus Foundation.

Methodology

This study utilized the pretest-treatment-posttest design. The sample consisted of 111 individuals 60 years of age or older residing in the Piedmont region of North Carolina. The sample was drawn from organized groups and clusters of older adults within the region. An effort was made to ensure representativeness in terms of income, education, race, socioeconomic status and living arrangements. Participation was voluntary.

Five workshops of seven 1 1/2 to 2 hour sessions were held. Six groups served as controls. The subject matter chosen for the workshops was a packaged program entitled "Action Course in Practical Politics" prepared by the United States Chamber of Commerce. The workshops were conducted by the researchers and three leaders trained by the researchers.

Pretests and posttests were administered to the experimental and control groups. Tested and validated scales were used to measure levels of anomia, life satisfaction and locus of control prior to and following the workshops.

The major statistical techniques employed were Pearson's Product Moment Coefficient of Correlation, least squares means analysis and the t test. The .05 level of significance was used throughout the study.

Results and Conclusions

Relationships Between Respondent Characteristics and Pretest Level of Anomia

Undergirding this research study were the notions that older individuals are often thrust into social systemic environments not conducive for a full and creative adaptation process. Anomia as a dimension of psychological well-being is related to feelings that individuals are isolated from themselves and the social system and hence become lonely, hopeless and despairing.

The correlation analysis showed significant negative relationships between anomia and many control relevant variables, especially knowledge and participation. The least squares means analysis showed that the variables in the model accounted for much of the variance in the anomia score. Age, especially 65-69, proved to be a significant predictor of anomia such that recently retired people tended to be more anomic than non-retired people or those over 70. Only a small number of people in this sample were still working. The fact that those forced to retire had lower anomia scores might reflect the notion that other variables affected the anomia score of those who retired voluntarily, i.e. health, loss of kin, etc.

Also a significant predictor of low anomia was the I-E score. This finding was consistent with the literature of alienation and anomia that points out the importance of perceiving the value of and capacity to expect successful outcomes and take steps to achieve those rewards. Social learning theory leads one to believe that only as one perceives generalized expectancies for control can one actively pursue behavioral alternatives enhancing the desired outcome. According to social learning theory, if the anomic person lacks internality, as this study indicates, he most likely will not seek a learning situation designed to change his perceptions. The fact, however, that a number of anomic people participated in these workshops is a positive retort to the notion that externally motivated, alienated and anomic people will not seek action to ameliorate their situation.

Hence, in conclusion, it seems that any prediction from demographic variables would be presumptuous. Rather, it can be more reasonably stated that the strong correlations of education, knowledge, participation and the predictive value of one's I-E score indicate an important pattern supporting notions of social learning theory. This pattern is further support for the conceptual schema developed for the study, i.e. the input of educational programming for enhancing feelings of internal control in late life is a means for increasing awareness and strengthening skills for more positive adaptation.

Relationships Between Respondent Characteristics and Pretest Level of Life Satisfaction

The hypothesis that there was no relationship between life satisfaction and many personal characteristics was rejected even though not one variable proved to be a significant predictor of life satisfaction scores. Life satisfaction is a multidimensional construct synonymous with psychological well-being. Because of its multidimensionality, the effort in this study to unidimensionalize the construct proved less than satisfactory.

However, significant correlational relationships were found similar to those in anomia and internal-external control. In addition to being highly related to each other, a number of common variables emerged as important in understanding relationships: political knowledge, income, political participation, organizational activities, housing, education and health.

In summarizing it is important again to note the interrelationship of the dependent variables and, in turn, the meaning of these relationships as they support the activity theory of aging and the literature related to life satisfaction. As stated in the literature, it is the components of everyday life that constitute measures of life satisfaction. The variables of health, housing, and activities are therefore consistently related to life satisfaction. In addition, the social-psychological variables, anomia and internal-external locus of control, were significantly related to life satisfaction which indicates the importance of perceived belonging and personal efficacy in assessing one's life satisfaction.

Relationships Between Respondent Characteristics and Pretest Level of Internal-External Control

It was the intention of this project to measure levels of internal-external control and attempt to enhance feelings of internality in those participants in the workshop group. It can be stated that this positive goal was achieved with many interesting relationships.

The Pearson Product Moment Correlations showed strong relationships between income, education, health, political knowledge and activity levels and measures of I-E. Just as in the correlational analysis of life satisfaction and anomia, those variables continued to hold their strength of correlation with I-E. Indeed, I-E was more consistently related to the activity levels than either of the other two dependent variables. These relationships, while not predictive of certain behaviors, did show directionality such that the researchers can say that the higher one's level of I-E, the higher one's level of activity and life satisfaction. It could also be said that the higher one's level of education, income and self-rated health, the higher one's score on the I-E scale.

The least squares means analysis showed a number of variables to be significant in predicting I-E scores. When controlled for the effects of the other variables, one's anomia score proved to be the most significant predictor of I-E scores such that as one became more eunomic, one had higher levels of internal control. As discussed earlier, this was certainly consistent with research showing the impact of belonging, satisfaction and feelings of access to goal substitution as related to measures of internal control.

Also found to be significant were the variables housing and whether or not one was forced to retire. Housing was not significantly correlated with I-E; but in the regression, housing showed its strength as important in a person's perception of control over his/her environment such that those persons who were not institutionalized showed significantly more internality than those in the nursing home settings. This is consistent with Wolk and Kurtz' (1975) research as well as that by Felton and Kahana (1974) which showed the impact of situational constraints upon levels of internality.

Hence, for the variable I-E, there were a number of strongly correlated variables which were strongly correlated to each other. As in the variables, anomia and life satisfaction, the activity variables were strong as well as political knowledge, housing, education and income. These variables are indicators of control relevant behavior and for purposes of this study, the fact that they were so strongly related to internality is evidence of the need to provide more options and activities for older adults and to give them new educational skills with which to make more knowledgeable decisions.

The Influence of the Workshop Series On Feelings of Anomia

It was anticipated that there would be a significant decrease in anomia among the workshop participants following the workshops and that there would be no change in the anomia levels of non-participants. Analysis of the data revealed that there was a slight decrease in anomia among workshop participants, but the difference between pretest and posttest anomia scores was not significant at the .05 level. What was not anticipated was the increase in anomia within the control group. One location group registered a significant increase in anomia.

Perhaps the most logical explanation for the lack of a significant decrease in anomia within the experimental group was the limited time period for the workshops (seven 1 1/2 to 2 hour sessions). Attitudes acquired over a long period of time are not changed easily. Also, the content of the workships addressed the ideas imbedded in the anomia scale only indirectly. A more deliberate attempt to dispel the myths surrounding the anomia syndrome might have produced different results.

It seems hardly reasonable to expect that the control groups will continue to become more and more anomic over time. There must be a "ceiling" at some point in time. A possible explanation of the increase in anomia within the control groups during the period of the study might, in fact, have been a reaction to being asked to complete the posttest (an activity which required time and effort and offered little gratification to the respondent).

The Influence of the Workshops on Feelings Of Life Satisfaction

Conclusions relating to changes in life satisfaction did not support the conceptual framework established for the study. Although participants in the workshops showed a slight increase in life satisfaction, the differences between pretest and posttest life satisfaction scores were not significant at the level chosen for rejecting the hypotheses. The non-participants registered a decrease in life satisfaction. The explanations given for the nonsignificant decrease in anomia could be applied to the lack of a significance increase in life satisfaction for the workshop participants. The slight decrease in life satisfaction among the non-participants might be explained in part by the same rationale used above to explain the increase in anomia among the control groups. It was concluded that the workshops were ineffective in influencing a significant increase in life satisfaction among the participants in this study.

The Influence of the Workshops on Feelings Of Internal-External Control

Conclusions relating to internal-external control (I-E) did support the conceptual framework developed for the study. There was a significant increase in internal control within the experimental group and slight, but nonsignificant decrease within the control group.

Internal control is defined as the perception of one's own actions and thereby under personal control, whereas external control is defined as the perception of positive and/or negative events as being unrelated to one's own behavior and therefore beyond personal control (Peters, 1968).

An examination of the subdimensions of the I-E scale revealed that one experimental location group showed a significant increase in control ideology. One experimental location group showed a significant increase in personal control and the larger experimental group along with the two experimental location groups showed significant increases in political control. There were no significant changes within the control groups.

The workshops were focused upon the citizen's role in public affairs and the content dealt with the basic idea that the individual can have an impact on the governmental process. This fact may account for the significant increase in internal control and in the subdimensions of political control among the workshop participants. It was concluded that the workshops did have a positive influence on workshop participants' level of internal-external control.

Implications

The findings of this study provide a number of important implications for individuals, agencies and organizations concerned with education for/about older adults. The major focus of this study was to provide information skills and techniques relevant to enhancing levels of internal control in older adults. It was thought that if older individuals could increase their levels of competence in areas of concern relevant to decision-making in their social environment, they could begin to regain more self-confidence and self-esteem as they continue to contribute to themselves and their community. With this renewed confidence and self-esteem, they would achieve higher levels of life satisfaction and regain a sense of belonging and hopefulness.

Evidence from this study shows that an educational experience designed to increase knowledge of the political process and provide an opportunity for interaction with peers can significantly enhance internal locus of control in older adults. The implication here is that such success in altering behavior patterns justifies the need for more educational programs for older adults which provide new options for growth and contributions to the community. Of further importance is that changes occurred in people from a variety of housing situations and in people from diverse backgrounds. Also, the myth relating to the difficulties for older adults to alter behavior patterns seems to be rebuked with evidence from this study. Indeed, in a relative short period of time, (seven weeks), significant changes were made in perceptions of people about their expectancies for success and capacity to feel powerful in the outcomes relevant to their lives.

The findings of this study should provide a challenge to educational programmers and service providers to take a proactive position in designing new opportunities for their older clients. Oftentimes, programs are designed only to meet immediate coping concerns, i.e. diet, health, physical fitness, etc. While these are very important, the success of this study points to the value of providing a process by which older people can gain stronger long-term knowledgeable involvement in the community. With such new or renewed strength of commitment and contribution, the old labels of useless, incompetent and sick can be changed to vital, important and influential.

The findings of this study should contribute to the body of knowledge relating to continuing education for the older adult. The social reconstruction model used in the study would seem to be an appropriate one for exploring the impact of planned educational activities upon internal-external control.

The fact that significant changes did occur in internal-external control among participants in the workshops would indicate that internal-external control is not a fully structural product of past experiences and present cirsumstances. It can be changed. Similarly, it may be possible to effect significant positive changes in anomia and life satisfaction among older adults if deliberate efforts are made to address the underlying causes within the framework of the learning situation and sufficient time is made available for change to occur.

References

Campbell, A., P. Converse and W. L. Rodgers. 1976. Quality of American Life. Russell Sage Foundation, New York.

Lawton, M. P. 1972. The dimensions of morale. In D. P. Kent, R. Kastenbaum and S. Sherwood (eds.), Research, Planning and Education for the Elderly. Behavioral Publications, New York.

Leonard, W. M. 1977. Sociological and social-psychological correlates of anomia among a random sample of aged. Journal of Gerontology 32:303-310.

Neugarten, B. L., R. J. Havighurst and S. Tobin. 1961. The measurement of life satisfaction. Journal of Gerontology 16:134-143.

Palmore, E. and C. Luikart. 1972. Health and social factors related to life satisfaction. Journal of Health and Social Behavior 13:68-80.

Rotter, J. B. 1966. Generalized expectancies for internal versus external control for reinforcement. Psychological Monographs 1(80):1-28.

Seeman, M. 1972. Alienation and knowledge seeking: A note on attitude and action. Social Problems 20:3-17.

Srole, L. 1956. Social integration and certain corollaries: An exploratory study. American Sociological Review 21:709-716.

Thurnher, M. and R. Pierce. 1975. Dimensions of locus of control among young and old adults. Paper presented at the 28th Annual Meeting of the Gerontological Society, Louisville.

Wolk, S. and J. Kurtz. 1975. Positive adjustment and involvement during aging and expectancy for internal control. Journal of Consulting and Clinical Psychology 43:173-178.

The Response of Older Women to a
Creative Problem Solving Program

Marge Engelman
University of Wisconsin-Green Bay

Introduction

Little research has been done in the development of creativity in older adults. Most research on creativity has focused on the creative abilities of children and young people. This study was designed to determine whether or not certain kinds of creative behavior can be increased in older adult people.

There are, of course, many different definitions of creativity. For the purposes of this study creativity was defined as: "That which demonstrates both uniqueness and value in its product. Creativity is a function of knowledge, imagination and evaluation." (Parnes, 1967) An older adult is a person 60 years of age or older.

Studies of Creativity in Older Adults

Alpaugh (1975) did a cross-sectional study examining 111 men and women teachers, ranging in age from 20 to 83 years of age. Two types of creativity were measured, divergent thinking and preference for complexity that may be related to the motivational aspects of creativity. She found significant age differences on both types of creativity measures; older subjects were less creative on these tests than younger ones. To the author's knowledge this study of creative potential across the life span is the only one dealing with creativity at different ages.

Experiments have consistently shown that older people take longer than younger people to learn new material (Botwinick 1967). Canestrairi (1963) suggested that in fast-paced learning situations older individuals tend to make more errors of omission than errors of commission. Botwinick (1973) indicated that when presented with examples of life situations involving risks, older people express a desire not to act at all. Klein (1972) found that older adults were more socially conforming than young adults in situations where they were subjected to social pressure. In a further study, Klein and Birren (1972) reduced the tendency of older adults toward conformity by raising their level of self-perceived competence. This study suggests that older adults may be less creative than their potential because of self-doubts.

Thus, the limited research seems to support the notion that older people are not as creative as younger people. There are indications that older people take longer to learn new things, are more cautious, are hesitant to take risks, need more structure to feel comfortable, and need help in raising their level of self-perceived competence. All of this suggests that older people are not inherently less creative than younger persons but that today's older people have characteristics which may interfere with creative behavior.

Reprints available by writing to Marge Engelman, University of Wisconsin-Green Bay, Green Bay, WI 54302.

Sex Differences in Creativity

Beginning with the psychoanalytic definitions of creativity, the issue of sex differences appears immediately. For Freud (1931) anatomy was destiny, creativity was "nothing but" sublimation of the libido, and women's creativity was designed to be fulfilled through her biological reproductive function. In spite of an almost total lack of attention in the past to women as creative humans, at least one recent study shows that there is no difference in creative potential of men and women. A study done by Alpaugh and Birren (1975), "Are There Sex Differences Across the Adult Life Span?" concluded that overall men and women are equally creative.

Women writers such as Anais Nin (1966) have testified to the struggles and the impasses in their lives because they were not expected to be creative. Jean Miller Baker (1976) points out that some women have actually not been less inventive than men, but their records have been obliterated so that the credit for their work has gone to the men with whom they collaborated.

Thus we see that just as females in our culture have been socialized differently from men, so have older people been socialized in ways that may have done damage to the expression of their creativity abilities. This study was designed to study only older women.

Statement of the Hypothesis

The purpose of this study was to investigate whether creative behavior, as measured by the Torrance Tests of Creative Thinking could be increased in older adult women through a Creative Problem Solving Program.

H_1: The major hypothesis under investigation was this: The use of a specific Problem Solving Program designed to increase certain creative thinking abilities will increase those abilities at a significant level in older adult women. H_2: A secondary hypothesis was: Those subjects with more than a high school education will score higher on the Torrance Tests of Creative Thinking than those subjects with a high school education or less.

Subjects and Experimental Design

The experiment was designed to study two groups of older women volunteers who live in Green Bay, Wisconsin. As shown in Table 1, the members of Group A were randomly assigned to the experimental group (E_1; n=10) and the control group (C_1; n=12). The members of Group B were randomly assigned to the experimental group (E_2; n=9) and the control group (C_2; n=9).

TABLE 1

R	Group A	Group B	Group A	Group B
	E_1 (10)	E_2 (9)	C_1 (12)	C_2 (9)
	P*	P	-	-
	M_1	M_1	M_1	M_1

*Program (Creative Problem Solving Program)

This first group of older women (Group A) were volunteers from a larger group of Senior Citizen Center participants who came to the University of Wisconsin-Green Bay Sports Center each Friday to go swimming. This second group of older women (Group B) were volunteers from a group of Senior Citizens who attend a Friendship Club that meets regularly at the First United Methodist Church in Green Bay, Wisconsin. All subjects were white, English-speaking community residents.

Both experimental groups received the same Problem Solving Program. It was determined that a pretest would not be used since in the case of assessing creative ability, a pretest could have a sensitizing effect on the subjects. Thus Campbell and Stanley's (1963) rule was followed: "When unusual testing procedures are to be used, it is best to use designs that do not involve pretests."

Based on the remarkable similarity of the two groups, there was good reason to pool the data and to treat them from a statistical standpoint as one group. Thus there was a total group of 40 women, 19 in the experimental group and 21 in the control group. The women ranged in age from 60-82.

The Creative Problem Solving Program

Both experimental groups received the same Creative Problem Solving Program. The program was administered in five sessions of two hours each. The sixth session was occupied with the experimental group taking the tests. The program was taken from materials developed by Sidney J. Parnes, State University of New York College at Buffalo. The plans for the six sessions were adapted from *Creative Behavior Workbook and Creative Behavior Guidebook* (1967). The material for the *Workbook* and *Guidebook* was modified so that it was appropriate to older adult women and their interests and experiences.

The course is devoted to the practical application of creative processes.

Administration of the Tests and Data Collection

C_1 and C_2 received the *Torrance Tests of Creative Thinking* as a group at the first class session. The members of the experimental groups (E_1 and E_2) received the *Torrance Tests of Creative Thinking* during the sixth session.

The scores generated by the tests include: (1) raw scores of fluency, flexibility, and originality of the seven activities in the verbal test, and (2) the raw scores of fluency, flexibility, originality and elaboration on the three activities in the figural test. Both tests yield grand totals. Raw scores are converted to standard or T-scores on the final scoring sheets for each individual.

Statistical Tools

Standard tests based on students' t-tests were used in analysis. Pooled estimate of variance was used in determining the standard error of difference. Statistical significance was determined at the .05 level.

In addition to the statistical data a log was kept by the teacher of each class session to record happenings, conversations and feelings expressed. Also a questionnaire was used at the last class session to give the participants a chance to evaluate their experience in the class.

Analysis of the Statistical Data

Table 2 and Table 3 present the data relating to the major hypothesis.

TABLE 2
AVERAGE SCORES FOR EXPERIMENTAL (N=19) AND CONTROL (N=21)
GROUPS ON TORRANCE TESTS OF CREATIVE THINKING: VERBAL SCORES

Verbal	Group	Score	t Value	P
Fluency	E*	44.58	.427	.672
	C*	43.71		
Flexibility	E	52.58	-.026	.979
	C	52.67		
Originality	E	54.68	-.272	.787
	C	55.57		

*E = Experimental, C = Control

TABLE 3
AVERAGE SCORES FOR EXPERIMENTAL AND CONTROL GROUPS
ON TORRANCE TESTS OF CREATIVE THINKING: FIGURAL SCORES

Figural	Group	Score	t Value	P
Fluency	E*	37.68	1.73	.090
	C*	33.67		
Flexibility	E	46.58	1.56	.127
	C	43.57		
Originality	E	64.42	1.34	.189
	C	58.00		
Elaboration	E	50.11	-1.43	.160
	C	56.33		

*E = Experimental, C = Control

The major hypothesis was not supported. The Problem Solving Program did not increase scores on the Torrance Tests at a significant (.05) level.

Four measures showed scores in the positive direction: Verbal Fluency, Figural Fluency, Figural Flexibility and Figural Originality. On only one measure, Figural Fluency, was there a difference of borderline statistical significance in favor of the experimental group. The increase was from 33.67 to 37.68 ($P < .090$).

The secondary hypothesis was not supported. On all measures, subjects in both the Experimental Group and the Control Group with more than a high school level education had higher scores than those with high school or less education. However, on only one measure did the difference reach an acceptable level of significance. The measure of Figural Fluency reached a .05 level of significance. Thus the study showed that educational level was not significantly related to scores on the Torrance Tests of Creative Thinking.

A Review of Nonstatistical Data

Nonstatistical data are introduced to this study because there were some observable effects of the experiment that are not evident in the statistical data. The Torrance Tests measure very stable kinds of traits; they may not be sensitive to slight and subtle changes. The personal reactions, group interactions and comments of the participants in the two control groups and the two experimental groups indicate some of the subtle changes.

Careful notes were made after each class session to record happenings, conversations and feelings expressed. In addition a questionnaire was used at the last class session to give the participants a chance to complete such statements as "I enjoyed ...", "I felt uncomfortable when ...." The questionnaire requested information on whether or not the subject had "done something creative that you wouldn't have done before you had this course." Questions were asked such as, "What do you think you will do differently now that you have had this class?" and "Would you recommend this course to others?"

There were times when some were uncomfortable and felt threatened. But in general there was interest in and enthusiasm for learning and growing. They were motivated. They were eager to learn new things. They were willing to try and to try again. They found it hard to change old habits. The experience built up their self-confidence and helped them feel good about themselves. It opened up new avenues. They developed a greater curiosity and were made aware of the challenges in life. They wished it could continue and expressed an openness to continued opportunities to learn.

They appreciated many things: the chance to participate, the teacher, the good food, new friends, several even appreciated taking the tests. They hoped that others might have the same experience. There was almost unanimous agreement that they would recommend the experience to others. Here was an event that was significant in their lives. It made life worth living and they didn't want it to stop. The nonstatistical data indicate that a great deal was happening that was meaningful and helpful in the lives of the participants.

Questions Raised by the Study

1. Is a problem solving program of two hours duration, once a week for five weeks sufficient to get significant differences on scores of creativity? Five weeks is probably not long enough if one considers the lack of experience with creative thinking techniques as well as long established habits of conformity that create special barriers.
2. Were the Torrance Tests of Creative Thinking usable with older adult women? Even though the author was reasonably persuaded that the tests were valid for this experiment, the results force the question. Even though the norms show that this group was scoring at about the same level as senior high school students, the content may not be as appropriate for this age group as they are for children and youth for whom the tests were designed. If creativity tests designed for older people were available, the results might have been more positive.

3. Is it possible that if the time restraints had been removed from the tests that the results would have been improved? Time restraints were not removed in the interest of comparing norms. It is likely that an open time for the tests would improve results.
4. Why did the subjects tend to do better on the verbal tests than on the figural tests? It is possible that they have been practicing verbal skills all their lives so that there was not tendency to show improvement: figural performance may have been newer to them and thus they showed greater improvement.
5. Is it possible that these older adult women were just too old and set in their ways to get any positive results with any reasonable treatment over any reasonable length of time? It was obvious that breaking out of all habits was difficult, but there were also many indications that the women were motivated and interested in thinking and in doing new and different things.
6. Are the Torrance Tests of Creative Thinking valid in terms of the Problem Solving Program? Research by Torrance (1974) indicated that the methods of Creative Problem Solving have been tested by the Torrance Tests and proved valid. However, in light of the discrepancies between the statistical data and the nonstatistical data, the question of validity of the tests must be raised.

Conclusions

Based on the analysis of the data from the Torrance Tests of Creative Thinking and the nonstatistical data collected by observation and an end-of-class questionnaire, the following conclusions are drawn.

Experimental subjects in the Problem Solving Program did not score significantly higher on the Torrance Tests of Creative Thinking than the control subjects who had not had the class. The study also showed that educational level was not significantly related to scores on the Torrance Tests of Creative Thinking. However, information collected via the teacher's log and the questionnaire given to the subjects at the end of the class showed that the class was a positive and creatively beneficial experience for the participants. Thus the qualitative data do seem to support the major hypothesis.

Considering the total set of findings, the most likely explanation for the lack of positive results in the statistical data was that the program was not of sufficient intensity. Further experiments extended over a longer period of time involving a more intensive program might very well give positive results. The test instrument may have been a problem. In order to measure change in creative thinking with older people a more creative approach in testing may need to be developed. In addition, further experiments should consider removing time constraints when tests are given.

This study generated both hypotheses based data as well as descriptive data. Fruitful research related to social gerontology should include both the experimental as well as the descriptive, each providing data contributing to the understanding of the creative process. It must may be that it is extraordinarily difficult to quantify qualitative data.

Alpaugh, P. K., *Variables Affecting Creativity in Adulthood: A Descriptive Study*. Thesis, Graduate School, University of Southern California, January 1975.

Alpaugh, P. K., and J. E. Birren,"Variables Affecting Creativity in *Adulthood*," *Human Development* 1975, 18, 461.

Botwinick, J., *Aging and Behavior*. New York: Springer, 1973.

Botwinick, J., *Cognitive Processes in Maturity and Old Age*. New York: Springer, 1967.

Campbell, D., and J. Stanley, *Experimental Design and Quasi-Experimental Design for Research*. Skokie, Illinois: Rand McNally, 1963.

Canestrairi, R. E., Jr., "Paced and Self-paced Learning in Young and Elderly Adults", *Journal of Gerontology* 1963, 18, 165-69.

Freud, Sigmund, *Female Sexuality*, Standard Edition, Vol. XXI. London: Hogarth Press, 1931.

Klein, R. L., "Age, Sex and Task Difficulty as Predictors of Social Conformity," *Journal of Gerontology* 1972, 27, 229-236.

Klein, R. L., and J. E. Birren, "Age, Perceived Self-Competence and Conformity," Proceedings, 81st Annual Convention, American Psychological Association, 1973, 779-780.

Miller, Jean Baker, "Creativity in Women", *American Association of University Women Journal*, November 1976, 7.

Nin, Anais, *Diary*. Chicago: Swallow Press, 1966.

Parnes, Sidney J., *Creative Behavior Guidebook*. New York: Charles Scribner's Sons, 1967, 6.

Parnes, Sidney J., *Creative Behavior Guidebook and Creative Behavior Workbook*. New York: Charles Scribner's Sons, 1967.

Torrance, E. P., *Torrance Tests of Creative Thinking, Directions Manual and Scoring Guide*. Personnel Press, Ginn and Company, Xerox Education Company, 1974.

INDEX OF AUTHORS

BATES, Heather 41
BARNDT, Deborah 246
BEATTY, Paulette 225
BOGGS, David L. 54
BOOTH, Nan 100
BOSHIER, Roger 203
BOYD, Robert D. 40
BUCKLEY, Keith D. 376
BURKE, Peter 271
BUSS, Terry F. 54

CAFFARELLA, Rosemary S. 355
CAMPBELL, M. Donald 41, 286
CERVERO, Ronald 1
COLES, Elizabeth A. 376
COMPTON, Carol J. 89
CONCHELOS, Greg 244
CONTI, Gary J. 164
COPPARD, Larry C. 383
COURTNEY, Sean 178

DAMEN, Louise 19
DAVIE, Lynn E. 340
DAVIES, Lee 253
DENIS, Margaret 116, 254
DESHLER, David 26
DOBBS, Ralph C. 362
DOHR, Joy H. 171
DONALDSON, Joe F. 171

ENGELMAN, Marge 397
EVEN, Mary Jane 237, 347
EWERT, D. Merrill 61

FALES, Ann W. 123
FARMER, James A. 260, 262
FLAHERTY, Jane F. 48
FOX, Robert D. 273

GLASS, J. Conrad 390
GRIFFIN, Virginia R. 248

HANNA, Donald E. 232
HALL, Budd L. 238
HEALY, Grace M. 191
HENDEL, Darwin D. 376

JACKSON, Robert 390
JACKSON, Ted 242
JAHNS, Irwin R. 19
JIMMERSON, Ronald M. 212
JOHNSON, Judith L. 219
JOHNSON, Rebecca O. 376

KLEINBAUM, John S. 376
KOZOLL, Charles E. 232
KURLAND, Norman D. 235

MARINO, Dian 240
MARSHALL, Mary 171
MASTAI, Judith 94
McMAHILL, William F. 362
MEEHAN, Donald B. 158
MENLO, Allen 299
MERRIAM, Sharan 143
MICHAELS, Dennis F. 326
MUELLER, August W. 198

PARKER, Larry Gordon 14
PENNINGTON, Floyd C. 268
PRATT, Daniel D. 106

RATHERT, Margaret A. 40
RAY, Robert O. 68
RODERICK, G.W. 136

SAFMAN, Phyllis C. 33
SEGUIN, Barbara Rehmann 369
SHAPIRO, Ernest 278
SHERIFF, Dennis E. 8
SIMPSON, Edwin L. 236
SORK, Thomas J. 75
STEEVES, Helen L. 40
STEWART, David W. 333
STUBBLEFIELD, Harold W. 184
STUMP, Robert W. 150
SUTER, Emanuel 265

TAYLOR, Marilyn 257
THIBODEAU, Janice 292
TRAVIS, George Y. 306
TRENT, Curtis 390

VOTRUBA, James C. 232

WALKER, Mary Bea 260
WARNOCK, H. Peter 130
WAUGAMAN, Dorothy O. 82
WHAPLES, Gene C. 82
WILSON, John P. 319
WONG, Angelina T. 313
WONG, Stephen C.P. 313
WRIGHT, Joan C. 270, 275
YOUNG, Richard E. 158